

A1-F18AC-SRM-210

1 September 1998

Change 1 – 1 August 2002

TECHNICAL MANUAL

ORGANIZATIONAL, INTERMEDIATE, AND DEPOT MAINTENANCE

STRUCTURE REPAIR WING

**NAVY MODEL
F/A-18A AND F/A-18B
161353 AND UP**

This manual is one of three volumes and is incomplete without A1-F18AC-SRM-211 and A1-F18AC-SRM-212.

This volume contains WP001 00 through WP007 01.

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NUMERICAL INDEX OF EFFECTIVE WORK PACKAGES/PAGES

List of Current Changes

Original 0 1 Sep 1998 Change 1 1 Aug 2002

Only those work packages/pages assigned to the manual are listed in this index. Insert Change 1, dated 1 August 2002. Dispose of superseded and deleted work packages/pages. Superseded and deleted classified work packages/pages shall be destroyed in accordance with applicable security regulations. If changed pages are issued to a work package, insert the changed pages in the applicable work package. The portion of text affected in a changed or revised work package is indicated by change bars or the symbol "R" in the outer margin of each column of text. Changes to illustrations are indicated by pointing hands, change bars, or MAJOR CHANGE symbols. Changes to diagrams may be indicated by shaded areas.

WP Number	Title	WP Number	Title
Title		004 03	Locating Tool, RE174110964, Actuator Attach Fitting, Inner Wing
Page A	Numerical Index of Effective Work Packages/ pages	004 04	Pylon Bushing Tool Set, Removal and Installation RE174110606
TPDR	List of Technical Publications Deficiency Reports Incorporated	004 05	Drilling Fixture, RE574110004-1, -2, Inner Wing
HMWS	Warnings Applicable to Hazardous Materials	004 06	Wing Transmission Lug Bushing Tool Kit Part Number RE274110000-1
001 00	Alphabetical Index	005 00	Inner Wing External Graphite Epoxy Doors 78, 79, 82, 191, 192, and 193
001 01	Wing Structure Group Index	005 01	Inner Wing External Metal Doors, Upper
002 00	Introduction	005 02	Inner Wing External Fiberglass or Aramid Doors 60, 61, 76, 77, and 106
003 00	Inner Wing Skins and Attach Pins	005 03	Hole Locating Plate Sets RE174110956 (Door 79), RE174110965 (Door 78), RE174110966 (Door 82)
003 01	Upper Inner Wing Skin Fasteners	006 00	Inner Wing External Doors 20, 21, 107, Lower
003 02	Lower Inner Wing Skin Fasteners	006 01	Lower Inner Wing External Doors 146, 147, 149, 150, 194, 195, 196, 197, Seals 74A110661 and 74A110978
003 03	Inner Wing Hole Numbers	007 00	Trailing Edge Flap Shroud
003 04	Inner Wing Skins Hoisting Adapter RE274110600-1, -2	007 01	Maintenance Fixture, RE174180103
003 05	Inner Wing Skin Drill Plate RE674110004-1, -2		
004 00	Inner Wing Structure		
004 01	Inner Wing Maintenance Fixture, RE174110004-1, -2, Loading Inner Wing		
004 02	Inner Wing Maintenance Fixture, RE174110004-1, -2, Inner Wing Repairs		

Total number of pages in this manual is 1016 consisting of the following:

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HMWS-1 - HMWS-13	0	5	0	1 - 15	0	1 - 3	0
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NOTICE

NOTICE

A1-F18AC-SRM-210

2 August 2002

A1-F18AC-SRM-210, CHANGE 1, DATED 1 AUGUST 2002, WAS PRINTED WITHOUT DECIMALS AND PERIODS. PLEASE REMOVE AND DISCARD PREVIOUSLY PROVIDED PAGES AND REPLACE WITH THE ATTACHED CORRECTED COPY.

PLACE THIS NOTICE SHEET BEHIND MANUAL TITLE PAGE AFTER COMPLETING REQUIRED ACTION.

NOTICE

NOTICE

LIST OF TECHNICAL PUBLICATION DEFICIENCY REPORTS (TPDR) INCORPORATED
ORGANIZATIONAL, INTERMEDIATE, AND DEPOT MAINTENANCE
STRUCTURE REPAIR
WING

1. The TPDRs listed below have been incorporated in this issue.











IDENTIFICATION NUMBER/ QA SEQUENCE NUMBER	LOCATION
None	

WARNINGS APPLICABLE TO HAZARDOUS MATERIALS

Warnings for hazardous materials listed in this manual are designed to warn personnel of hazards associated with such items when they come in contact with them by actual use. Additional information related to hazardous materials is provided in OPNAVINST 5100.23, Navy Occupational Safety and Health (NAVOSH) Program Manual, NAVSUPINST 5100.27, Navy Hazardous Material Control Program, and the DOD 6050.5, Hazardous Materials Information System (HMIS) series publications. For each hazardous material used within the Navy, a Material Safety Data Sheet (MSDS) is required to be provided and available for review by users. Consult your local safety and health staff concerning any questions on hazardous chemicals, MSDS's, personal protective equipment requirements and appropriate handling and emergency procedures and disposal guidance.

Complete warnings for hazardous materials referenced in this manual are identified by use of an icon, nomenclature and specification or part number of the material, and a numeric identifier. The numeric identifiers have been assigned to the hazardous materials in the order of their appearance in the manual. Each hazardous material is assigned only one numeric identifier. Repeated use of a specific hazardous material references the numeric identifier assigned at its initial appearance.

In the text of the manual, the caption WARNING will not be used for hazardous materials. Such warnings will be identified by an icon and numeric identifier. The material nomenclature will also be provided. The user is directed to refer to the corresponding numeric identifier listed below for the complete warning applicable to the hazardous materials.

Biological		Ingestion	
Chemical		Poison	
Explosion		Radiation	
Eye Protection		Vapor	
Fire		Cryogenic	

EXPLANATION OF HAZARDOUS SYMBOLS



The abstract symbol bug shows that a material may contain bacteria or viruses that present a danger to your life or health.



The symbol of drops of a liquid onto a hand shows that the material will cause burns or irritation of human skin or tissue.



The rapidly expanding symbol shows that the material may explode if subjected to high temperatures, sources of ignition, or high pressure.



The symbol of a person wearing goggles shows that the material will injure your eyes.



The symbol of a flame shows that a material can ignite and burn you.



The symbol of a skull and crossbones shows that a material is poisonous or is a danger to life.



The symbol of three circular wedges shows that the material emits radioactive energy and can injure human tissue or organs.



The symbol of a human figure in a cloud shows that vapors of a material present a danger to your life or health.

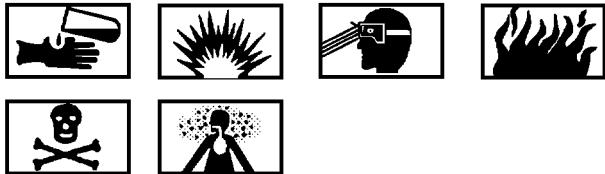
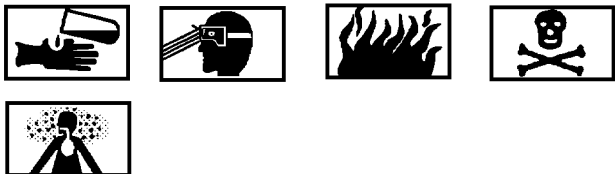



The symbol of a hand in a block of ice shows that the material is extremely cold and can injure human skin or tissue.



The symbol of a liquid entering the mouth shows that eating or drinking this material can cause a health hazard.













HAZARDOUS MATERIALS WARNINGS

<u>Index</u>	<u>Material</u>	<u>Warning</u>
1	Jet Fuel, JP-4 and JP-5, MIL-T-5624, JP-8, MIL-T-83133	<p>Jet Fuel, JP-4 and JP-5, MIL-T-5624; JP-8, MIL-T-83133, is toxic and flammable/combustible. Do not use near open flames, near welding areas, or on hot surfaces. Do not smoke when using it and do not use it where others are smoking. Aircraft fueling/defueling operations shall be performed only after proper bonding/grounding. Contact of skin with liquid can irritate skin. Contact of eyes with liquid can cause severe irritation and blurred vision. Inhalation of vapor may cause irritation, headache, nausea, and dizziness. If liquid contacts eyes, flush eyes thoroughly with water. Immediately remove fuel-saturated clothing. If vapors cause dizziness, go to fresh air. If liquid is swallowed, do not try to vomit. Get medical attention. Dispose of liquid-soaked rags in approved metal container. Metal containers of fuel must be grounded to maintain electrical continuity. Fuel cells shall be entered only after having been certified gas-free by qualified personnel. Ensure good personal hygiene prior to eating, drinking, or smoking. Protection: chemical resistant goggles, rubber gloves, protective clothing, and good ventilation. When handling large quantities of liquid (more than one gallon) at an unexhausted workbench, wear approved respirator and goggles or face shield.</p>
		
2	Adhesive, EA956	<p>Adhesive, EA956, is toxic and flammable. Avoid contact with skin and eyes. Use in well ventilated area and avoid breathing vapors. Wash hands thoroughly after each use. Close container after usage. Store in a cool, dry, and well ventilated area. Avoid contact with strong oxidizing agents. Protection: rubber gloves, chemical resistant goggles, and protective skin compound; respirator with organic vapor cartridge required in poorly ventilated areas.</p>
		
3	Metal Cleaner, 222555	<p>Metal Cleaner, 222555, is an extremely hazardous liquid. It can cause irritation of skin, eyes, nose, and throat. Avoid contact with skin and clothing. Wear rubber gloves, face shield, rubber apron, and respirator while handling. Always work in a well ventilated area. If solution contacts the skin or eyes, wash immediately with large quantities of water for 15 minutes or more, then secure first aid.</p>
		

















HAZARDOUS MATERIALS WARNINGS (Cont)

<u>Index</u>	<u>Material</u>	<u>Warning</u>
4	Methyl Ethyl Ketone, TT-M-261	<p>Methyl Ethyl Ketone (MEK), TT-M-261, is toxic and flammable, Do not use near open flames, near welding areas, or on hot surfaces. Do not smoke when using it, and do not use it where others are smoking. Keep container tightly closed. Avoid contact with skin or eyes. Contact with liquid or vapor can cause skin irritation, dermatitis, and drowsiness. If there is any prolonged skin contact, wash contacted area with soap and water. Remove solvent saturated clothing. If vapors cause drowsiness, go to fresh air. If irritation persists, get medical attention. When handling liquid at air-exhausted workbench, wear approved gloves, goggles, and long sleeves. When handling liquid or liquid-soaked cloth in open unexhausted area, wear approved respirator, gloves, and goggles. Dispose of liquid soaked rags in approved metal container. Metal containers of solution must be grounded to maintain electrical continuity.</p>
5	Adhesive, EA9321A/B	<p>Adhesive, EA9321A/B, is toxic and flammable. Avoid contact with skin and eyes. Use in well-ventilated area and avoid breathing vapors. Wash hands thoroughly after each use. Close container after usage. Store in a cool, dry, and well-ventilated area. Avoid contact with strong oxidizing agents. Protection: rubber gloves, chemical resistant goggles, and protective skin compound; respirator with organic vapor cartridge required in poorly ventilated areas.</p>
6	Release Agent, Fluorocarbon Lubricant, MS-122	<p>Fluorocarbon Lubricant, MS-122, is toxic and can release poison gas when heated. Excessive inhalation during normal use can cause dizziness, narcosis, and eye irritation. It can also contaminate smoking tobacco. Do not smoke tobacco exposed to the lubricant. Do not breathe vapors. Avoid contact with eyes and skin. Mild skin irritant. No smoking in area where fluorocarbon lubricant is used. Use in well ventilated areas. Protection: chemical splash proof goggles, gloves and good ventilation. Ensure good personal hygiene prior to eating, drinking, or smoking.</p>














HAZARDOUS MATERIALS WARNINGS (Cont)

<u>Index</u>	<u>Material</u>	<u>Warning</u>
7	Adhesive, Silastic RTV 732	Silicone Sealant, Silastic RTV 732, is a skin, eye, and respiratory tract irritant. Avoid skin and eye contact and breathing vapors. Avoid repeated or prolonged contact. Wash hands thoroughly before eating, smoking, or using washroom. Avoid contact with extreme heat or oxidizing materials. Protection: chemical resistant goggles and rubber gloves. Good general ventilation is normally adequate.
	  	
8	Sealing Compound, MIL-S-83430, Class A-1/2, B-2, or B-4	Sealing Compound, MIL-S-83430, Class A-1/2, B-2, or B-4, is flammable and toxic to eyes, skin, and respiratory tract. Prolonged overexposure via inhalation may cause liver and/or kidney damage. Protection: Chemical splashproof goggles and solvent resistant gloves. Keep compound off skin and eyes. Keep away from open flames or other sources of ignition. Use only in well ventilated areas. Ensure good personal hygiene prior to eating, drinking, or smoking.
	   	
9	Isopropyl Alcohol, TT-I-735	Isopropyl Alcohol, TT-I-735, is toxic and flammable. Do not use near open flames, near welding areas, or on hot surfaces. Do not smoke when using it and do not use it where others are smoking. Inhalation of vapors can cause drowsiness, dizziness, and headache. Contact of liquid with skin may cause dermatitis and irritation. If any liquid contacts skin or eyes, immediately flush affected area thoroughly with water. Remove solvent-saturated clothing. If vapors cause drowsiness, go to fresh air. When handling large quantities (greater than one gallon), work at air-exhausted workbench or covered tank. Store solvent and dispose of liquid-soaked clothes in approved metal safety container. Metal containers of liquid must be grounded to maintain electrical continuity. Protection: chemical resistant goggles, gloves, and good ventilation (or respirator).
	    	












HAZARDOUS MATERIALS WARNINGS (Cont)

<u>Index</u>	<u>Material</u>	<u>Warning</u>
10	Sealing Compound, Temperature Resistant MIL-S-88802, Type 2, Class A-1/2	Sealing Compound, Temperature Resistant, MIL-S-88802, Type 2, Class A-1/2, is toxic and flammable. Keep away from heat, sparks, and open flame. Use with adequate ventilation to prevent vapor buildup. Prolonged breathing of vapors from organic solvents or materials containing organic solvents is dangerous. Avoid prolonged or repeated skin or eye contact. Wash hands thoroughly with soap and water before eating, drinking, or smoking. Contains chromates; follow approved toxic waste disposal procedures. Protection: rubber gloves, chemical resistant goggles, and protective skin compound.
	   	
11	Sealing Compound, MIL-S-81733	Sealing Compound, MIL-S-81733, is flammable and toxic and may contain chromium compounds, suspected carcinogens. Avoid contact with skin and eyes. Keep away from heat, flames, and oxidizing materials. Prolonged breathing of vapors from organic solvents, or materials containing organic solvents, is dangerous. Protection: rubber gloves, chemical resistant goggles, and protective skin cream; use of a respirator with organic vapor cartridge is advised in poorly ventilated areas. Wash hands thoroughly with soap and water before eating, drinking, or smoking. Contains chromates; follow approved toxic waste disposal procedures.
	    	
12	Petrolatum, Technical, VV-P-236	Technical Petrolatum, VV-P-236, is an eye irritant and upon exposure may cause skin irritation. May cause stomach/intestinal irritation upon ingestion. Avoid extreme heat and strong oxidizing agents. Protection: neoprene gloves and chemical goggles.
	 	
13	Adhesive, EC2216 B/A	Adhesive, EC2216 B/A, is toxic and flammable. Avoid contact with skin and eyes. Use in well ventilated area and avoid breathing vapors. Wash hands thoroughly after each use. Close container after usage. Store in a cool, dry, and well ventilated area. Avoid contact with strong oxidizing agents. Protection: rubber gloves, chemical resistant goggles, and protective skin compound; respirator with organic vapor cartridge required in poorly ventilated areas.
	    	











HAZARDOUS MATERIALS WARNINGS (Cont)

<u>Index</u>	<u>Material</u>	<u>Warning</u>
14	Solder, Wire, Cerrobend	Solder Wire, Cerrobend, is toxic. Use in well ventilated area and avoid prolonged breathing of vapors. Wash hands thoroughly after each use. Protection: gloves, chemical splashproof goggles; use protective face shield when grinding, welding, brazing, or soldering in confined or poorly ventilated areas.
	  	
15	Polyurethane, 822X362, Gloss Insignia White, Color 17875	Polyurethane, 822X362, Gloss Insignia White, Color 17875, is toxic and flammable. Do not use near open flames, welding areas or on hot surfaces. Keep container closed. Do not eat, drink, or smoke where paints are being mixed, handled, or cleaned up. Polyurethane paints contain isocyanate compounds. Prolonged breathing of paint vapors or spray painting mist is dangerous; respiratory protection is required when using this material. Some colors may contain lead. Avoid prolonged skin contact. Personnel working with this material should be trained in precautions and proper handling. Tyvek-type coveralls or other clothing shall be worn in lieu of street garments or uniforms. Symptoms of overexposure may include severe allergic or asthmatic-like responses. Prior to spraying, personnel should receive pre-placement isocyanide physical. Ensure good personal hygiene prior to eating, drinking, or smoking. Protection: chemical resistant goggles, gloves, and good ventilation; respiratory protection is mandatory. Refer to local directions for guidance.
	    	
16	Beryllium Oxide/Beryllium	Beryllium and its compounds are considered to be human and experimental carcinogens, tumorigens, and neoplastigens. Compounds may enter the body through inhalation of dust and fumes and may act locally on the skin. Even alloys of low beryllium content have shown to be dangerous. Inhalation of the dust can cause severe lung damage with symptoms appearing within months. Exposure may result in fibrosis. Beryllium and its compounds are on the Community Right to Know List. Parts containing beryllium must not be drilled, cut, filed, sanded, or otherwise processed. Avoid contact; protect face and eyes; use respirator. Disposal of beryllium/beryllium oxide must be in accordance with local Environmental Protection Agency (EPA) directives.
	    	
















HAZARDOUS MATERIALS WARNINGS (Cont)

<u>Index</u>	<u>Material</u>	<u>Warning</u>
17	Cleaning Compound, Trichlorotrifluoroethane, MIL-C-81302	<p>TRICHLOROTRIFLUOROETHANE, MIL-C-81302, VAPOR IS HAZARDOUS AND CAN CAUSE DEATH IF TOO MUCH IS BREATHED. Vapor from one pint of liquid evaporated in a small room is nearly odorless, but immediately dangerous to life or health. In case of spill, warn others and leave the area immediately. When used indoors, do not rely upon oxygen deficiency monitor to warn of dangerous concentrations of Trichlorotrifluoroethane. Have at least two people present at all times with one as observer. Have emergency escape breathing devices available for immediate use. Repeated or prolonged contact with liquid or inhalation of vapor can cause skin and eye irritation, dermatitis, drowsiness, and heart damage. After prolonged skin contact, wash contacted area with soap and water. Remove contaminated clothing. If vapors cause irritation, go to fresh air; get medical attention. When handling liquid in vapor-degreasing tank with hinged cover and air exhaust, or air-exhausted workbench, wear approved gloves and goggles, if contact with liquid is likely. When handling liquid in open, unexhausted workbench, wear approved respirator, gloves, and goggles. Do not enter places where Trichlorotrifluoroethane is stored until ventilated, and air sample verifies it is safe. Dispose of liquid-soaked rags in approved metal container. Excess Trichlorotrifluoroethane should be containerized for shore disposal and should be kept separate from chlorinated solvents.</p>
	   	
18	Adhesive, Verifilm FM641	<p>Adhesive, Verifilm FM641, is irritating to skin, eyes, and respiratory tract. Avoid any contact with skin and eyes. Do not breathe fumes during heat cure cycle.</p>
	  	
19	Corrosion Inhibiting Adhesive Primer, BR-127	<p>Corrosion Inhibiting Adhesive Primer, BR-127, contains organic solvents that are toxic and flammable. Do not use on hot surfaces or near sources of ignition. Avoid skin contact and breathing of vapors. Use only with adequate ventilation. Prolonged or repeated breathing of vapors is dangerous. Respirators and goggles must be worn if primer is applied by spray or aerosol application. Prolonged or repeated skin contact can have a toxic effect on affected skin area. Protective gloves shall be worn when using or handling adhesive primer. Contains chromates. Follow approved toxic waste disposal procedures.</p>
	   	

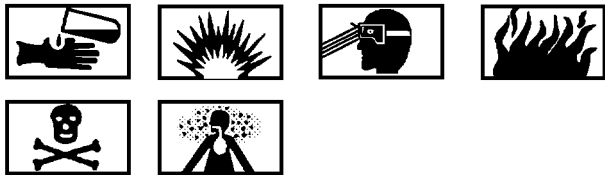
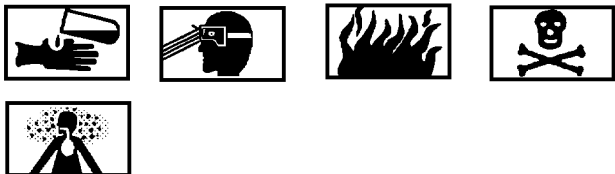
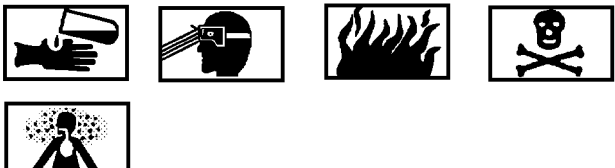
HAZARDOUS MATERIALS WARNINGS (Cont)

<u>Index</u>	<u>Material</u>	<u>Warning</u>
20	Alkaline Rust Remover, Turco 4181	Alkaline Rust Remover, Turco 4181, is toxic to skin, eyes, and respiratory tract. When adding solid to water, stir in slowly. Avoid splattering any solution by controlling heat below 170°F. Contact with liquid or vapor will cause severe burns on exposed tissue. Inhalation of powder can damage lungs. If solution or powder contacts skin or eyes, flush affected area thoroughly with water. Get medical help immediately. Immediately change any contaminated clothing. Use only in well ventilated area. When using solution or mixing powder into solution, wear approved gloves, face shield, and apron.
	  	
21	Cleaning Material, for Titanium, PASA-JELL 107	Cleaning Material for Titanium, PASA-JELL 107, will cause serious injury if not handled properly. It causes irritation of skin, eyes, nose, and throat. Avoid contact with skin, eyes, and clothing. Avoid breathing vapors. Wear acid resistant rubber gloves, face shield and respiratory protection. Always work in a well ventilated area. In case of contact, wash affected area with large quantities of water. Ensure all adhering chemical is removed. Change any soaked clothing. Get medical attention immediately.
	  	
22	Adhesive Film, FM73	Adhesive Film, FM73, is toxic. Avoid breathing vapors. Avoid contact with skin or eyes. Wear gloves and goggles while handling. If eye contact is made, wash immediately with large amount of water. If skin contact is made, wash immediately with soap and water.
	   	

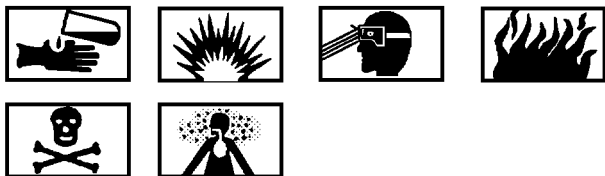



HAZARDOUS MATERIALS WARNINGS (Cont)

<u>Index</u>	<u>Material</u>	<u>Warning</u>
23	Sealing Primer, MIL-S-22473, Grade N, Form R; Grade T, Form R	Sealing Primer, MIL-S-22473, Grade N, Form R, is toxic and flammable. Do not use near open flames, near welding areas, or on hot surfaces. Prolonged or repeated contact with liquid can cause dermatitis and irritation of skin. Repeated inhalation of vapor can cause liver and kidney damage. If any liquid contacts skin or eyes, immediately flush affected area thoroughly with water. Remove solvent-saturated clothing. If vapors cause irritation, go to fresh air. When handling liquid at air-exhausted workbench, wear approved gloves and wear goggles or face shield. When handling liquid at unexhausted workbench, wear approved respirator and gloves, and wear goggles or face shield. Dispose of liquid-soaked rags in approved metal container.
	    	
24	Nitrogen, Liquid, BB-N-411, Type I, Class 1, Grade A/B	Liquid Nitrogen, BB-N-411, Type II, is extremely cold and can injure human skin or tissue; it also acts as a natural asphyxiant. Use in well ventilated spaces. Liquid nitrogen is extremely cold (-196°C); avoid contact with skin. Wear approved cryogenic protective clothing and gloves and chemical resistant goggles. In case of frostbite from liquid nitrogen, wash area with cool water and seek medical attention.
	    	
25	Retaining Compound, MIL-S-46082	Retaining Compound, MIL-S-46082, is a skin and eye irritant and combustible. Do not use near open flames, near welding areas or on hot surfaces. Prolonged or repeated contact with liquid can cause dermatitis and irritation of skin. Repeated inhalation of vapor can cause liver and kidney damage. If any liquid contacts skin or eyes, immediately flush affected area thoroughly with water. Remove solvent-saturated clothing. If vapors cause irritation, go to fresh air. When handling liquid at air-exhausted workbench, wear approved gloves and goggles or face shield. When handling liquid at unexhausted workbench, wear approved respirator and gloves, and wear goggles or face shield. Dispose of liquid-soaked rags in approved metal container.
	    	

HAZARDOUS MATERIALS WARNINGS (Cont)

<u>Index</u>	<u>Material</u>	<u>Warning</u>
26	Cleaning Solvent MIL-C-38736	Cleaning Solvent, MIL-C-38736, is toxic and flammable; it irritates skin, nose, throat, and respiratory tract. Avoid repeated/prolonged contact. Avoid heat, sparks, flames, and strong oxidizing agents. Keep away from open flames or other sources of ignition. Keep container tightly closed. Use only in well-ventilated areas. Protection: chemical resistant gloves, chemical goggles, faceshield and protective clothing required when splashing is possible or expected; fullface atmosphere supplying respirator with organic vapor cartridge required in poorly ventilated areas.
		
27	Chemical Conversion Coating for Aluminum, MIL-C-81706	Chemical Conversion Coating for Aluminum (Alodine), MIL-C-81706, is toxic, flammable, and highly reactive. Do not mix with oxidizable materials such as cloth, paper, and wood. Avoid humidity, strong acids, alkalies, reducing compounds, and flammable or combustible materials. Store in a dry area in tightly closed containers. Store away from oils, greases, and corrosives. When mixing solutions, add acid to water, not water to acid. Contains chromic acid, a systemic poison, and may aggravate pre-existing conditions. Contact with powder can cause severe skin and eye irritation and skin ulcers. Inhalation or ingestion can result in nasal and kidney damage. If any liquid or powder contacts skin or eyes, immediately flush affected area thoroughly with water. Immediately change any contaminated clothing. If skin disorders appear, get medical attention. When handling powder at air-exhausted workbench or tank, wear approved gloves and apron. Do not eat, smoke, or carry smoking materials in areas where powder is handled. Contains chromates. Follow approved toxic waste disposal procedures. Protection: rubber gloves, chemical resistant goggles, faceshield, and laboratory apron; respirator with acid/organic vapor cartridge and mist prefilter is required during spray operations or in poorly ventilated areas.
		
28	Epoxy Primer, MIL-P-85582	Waterborne Epoxy Primer, MIL-P-85582, is toxic and flammable. Avoid prolonged or repeated breathing of vapors. Wash hands after use. Wash contaminated clothing before re-use. Avoid heat, sparks and flames. Store only in ventilated areas. Protection: full face-piece continuous-flow supplied air respirator, neoprene gloves, chemical goggles, faceshield, protective skin compound, and protective clothing required during spraying operations.
		

HAZARDOUS MATERIALS WARNINGS (Cont)

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29	High Solids Polyurethane Coating, MIL-C-85285B, Type I/II	High Solids Polyurethane Coating, MIL-C-85285B, Type I/II, is toxic and flammable. Avoid contact with skin and eyes. Avoid breathing vapors. Remove and wash contaminated clothing before re-use. Do not take internally. Wash hands before eating, smoking, or using washroom. Keep away from heat, sparks, and flame. Do not apply to hot surfaces. Keep containers tightly closed. Store in a well ventilated area. Protection: full facepiece continuous-flow supplied air respirator, neoprene gloves, chemical goggles, faceshield, and protective skin compound; protective clothing required during spraying operations.
		
30	Cleaning Compound, PR146 Blue	Cleaning Compound, PR146 Blue, is toxic to skin, eyes, and respiratory tract. Skin and eye protection required. Avoid repeated or prolonged contact. Good general ventilation is normally adequate.
		
31	Quick-Set Concrete	Quick-Set Concrete is irritating to skin and eyes and is a respiratory tract irritant. Avoid contact with skin and eyes. Do not inhale dust.
		
32	Coolant, Isopar M	Coolant, Isopar M, is toxic and flammable. Avoid prolonged skin contact, Avoid contact with eyes. If splashed into eyes, flush with clear water for 15 minutes or until irritation subsides. Use in well ventilated area and avoid prolonged breathing of vapors. Protection: rubber gloves, chemical splashproof goggles; use half-mask respirator with organic cartridge required in poorly ventilated areas. Use chemical resistant apron. Keep containers closed when not in use. Do not handle or store near heat, sparks, flame or strong oxidants. This liquid is volatile and gives off invisible vapors. Either the liquid or vapor may settle in low areas or travel to remote ignition sources.
		

HAZARDOUS MATERIALS WARNINGS (Cont)

IndexMaterialWarning

33 Adhesive, EA934



Adhesive, EA934, is toxic. Avoid breathing vapors. Avoid contact with skin or eyes. Wear gloves and goggles while handling. If eye contact is made, wash immediately with large amount of water. If skin contact is made, wash immediately with soap and water.

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Inner Wing, Fiberglass or Aramid (Door 60, 61, 76, 77, and 106)	005 02
Inner Wing, Graphite Epoxy (Door 78, 79, 82, 191, 192, and 193)	005 00
Inner Wing Lower (Doors 20, 21, and 107)	006 00
Inner Wing Lower (Doors 146, 147, 149, 150, 194, 195, 196, and 197)	006 01
Metal, Inner Wing	005 01
Metal, Outer Wing	013 00
Outer Wing, Lower	014 00
Outer Wing, Upper	013 00
Plate Set, RE174150820 (Door 84), RE174160826 (Door 83)	013 02
Plate Set, RE174150824	011 01
Plate Set, RE174110956 Cover (Door 79)	005 03
Plate Set, RE174110965 Cover (Door 78)	005 03
Plate Set, RE174110966 Cover (Door 82)	005 03
Doors, Internal	017 00
Doors, Metal	
Inner Wing	005 01
Outer Wing	013 00
Fuel Tank Leak Detection and Isolation	026 00
Hole Numbers	
Inner Wing	003 03
Outer Wing	014 02
Inner Wing Drilling Fixture, RE574110004-1, -2	004 05
Inner Wing Maintenance Fixture, RE174110004-1, -2, Loading Inner Wing	004 01
Inner Wing Maintenance Fixture, RE174110004-1, -2, Repairs	004 02
Inner Wing Skins Hoisting Adapter, RE274110600-1, -2	003 04
Lower Skin Fasteners, Inner Wing	003 02
Lower Skin Fasteners, Outer Wing	014 01
Outer Wing Drilling Fixture, RE974150002-1, -2	012 02
Outer Wing Maintenance Fixture, RE174150002-1, -2	012 01
Pins, Attach	003 00
Removal and Installation	
Inner Wing	025 00
Outer Wing	020 00
Removal, Outer Wing with Damaged Wing Fold Transmission	020 03
Replacement	
Inner Wing	025 01
Outer Wing	020 01
Sealing Requirements	021 00
Skins	
Inner Wing	003 00
Outer Wing	011 00

Title	WP Number
Trailing Edge Flap, Leading Edge Composite	008 04
Trailing Edge Flap, Leading Edge Metal	008 01
Spars	
Inner Wing	004 00
Strain Gages	023 00
Structure	
Inner Wing	004 00
Outer Wing	012 00
Trailing Edge Flap, Leading Edge	008 02
Upper Skin Fasteners, Inner Wing	003 01
Upper Skin Fasteners, Outer Wing	014 01
Wing Fold	
Aft Spar, Lug Repair, Effectivity: 161353 thru 161528	004 00
Fairings, Wing Fold, Effectivity: 161353 thru 161519	016 02
Fairings, Wing Fold, Effectivity: 161520 and Up	016 03
Filler (7A110866), Replacement	
Inner Wing	003 00
Outer Wing	011 00
Removal, Outer Wing with Damaged Wing Fold Transmission	020 03
Transmission Rod, IVD Coating Repair	012 00

STRUCTURE REPAIR

WING STRUCTURE GROUP INDEX

Reference Material

None

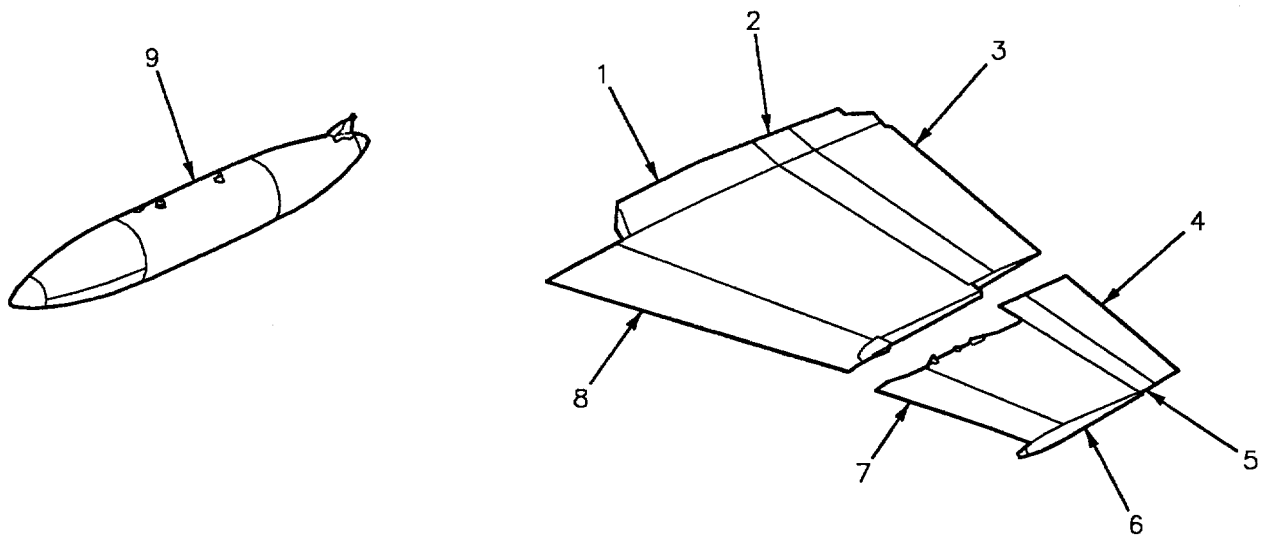
Alphabetical Index

Subject	Page No.
Description	1
Wing Structure Group Index, Figure 1	2

Record of Applicable Technical Directives

None

- DESCRIPTION.** See figure 1. package numbers for each component contained in this manual. An item number is assigned each component.
- This work package shows location of each component of the wing structure group and specific work



ITEM	NOMENCLATURE	PART NUMBER	WP
1	INNER WING INNER WING SKINS INNER WING STRUCTURE INNER WING EXTERNAL DOORS, UPPER INNER WING EXTERNAL DOORS, LOWER WING FUEL TANK FILLET AND PACKING SEALING PROCEDURES WING FUEL TANK DAM GAP SEAL REPAIR WING FUEL TANK CHANNEL GROOVE SEAL INJECTION INNER WING REMOVAL AND INSTALLATION	74A110004	003 00 004 00 005 00 006 00 018 00 018 01 019 00 025 00
2	TRAILING EDGE FLAP SHROUD	74A180103	007 00
3	TRAILING EDGE FLAP	74A180003	008 00
4	AILERON	74A170004	010 00
5	AILERON SHROUD	74A170103	009 00
6	OUTER WING OUTER WING SKINS OUTER WING STRUCTURE OUTER WING EXTERNAL METAL DOORS, UPPER OUTER WING EXTERNAL DOORS, LOWER OUTER WING REMOVAL AND INSTALLATION	74A150002	011 00 012 00 013 00 014 00 020 00
7	OUTBOARD LEADING EDGE FLAP	74A190202	015 00
8	INBOARD LEADING EDGE FLAP	74A190002	016 00
9	EXTERNAL FUEL TANK, CYLINDRICAL EXTERNAL FUEL TANK, ELLIPTICAL	74A551000 74A550000	022 00 024 00

Figure 1. Wing Structure Group Index

INTRODUCTION**ORGANIZATIONAL, INTERMEDIATE, AND DEPOT MAINTENANCE****WING**

1. PURPOSE.

2. This manual provides damage evaluation, repair, and replacement information for structure items at organizational, intermediate, and depot levels of maintenance.

3. REQUISITIONING AND DISTRIBUTION OF NAVAIR TECHNICAL PUBLICATIONS.

4. Procedures to be used by Naval activities and other Department of Defense activities requiring NAVAIR technical manuals are defined in NAVAIR 00-25-100 and NAVAIRINST 5605.5.4A.

5. To automatically receive future changes and revisions to NAVAIR technical manuals, an activity must be established on the Automatic Distribution Requirements List (ADRL) maintained by the Naval Air Technical Data and Engineering Service Command (NATEC). To become established on the ADRL, notify your activity central technical publications librarian. If your activity does not have a library, you may establish your automatic distribution by contacting the Commanding Officer, NATEC, Attn: Distribution, NAS North Island, Bldg. 90, P. O. Box 357031, San Diego, CA 92135-7031. Annual reconfirmation of these requirements are necessary to remain on automatic distribution. Please use your NATEC assigned account number whenever referring to automatic distribution requirements.

6. If additional or replacement copies of this manual are required with no attendant changes in the ADRL, they may be ordered by submitting a MILSTRIP requisition in accordance with NAVSUP 485 to Routing Identifier Code "NFZ". MILSTRIP requisitions can be submitted through your supply office, Navy message, or SALTS to DAAS (Defense Automated Address System), or through the DAAS or NAVSUP web sites. For assistance with a MILSTRIP requisition, contact the Naval Inventory Control Point (NAVICP) Publications and Forms Customer Service at DSN 442-2626 or (215) 697-2626, Monday through Friday, 0700 to 1600 Eastern Time.

7. MANUAL ISSUE DATE.

8. The date on the title page is the copy freeze date. No additions, deletions, or changes are made

after the manual issue date, except last minute safety of flight or required maintenance changes. Data collected after the manual issue date is included in later changes or revisions of the manual.

9. EFFECTIVITIES.

10. Effectivity notes on manual title page, work package title pages, and within a work package indicate the aircraft to which the data applies. If no effectivity note appears on the work package title page, the work package has the same effectivity as shown on the manual title page. The effectivity notes may use:

NOTE

Aircraft with model designator F/A-18B are the same type and model as TF/A-18A.

- a. Type, model, and series
- b. Bureau number (tail number)
- c. Combination of type, model, series, and bureau numbers
- d. Part number or serial number
- e. Technical directive number

11. The table below shows examples of effectivity notes and their meanings:

12. TECHNICAL DIRECTIVES.

13. Technical directives are documents which direct the accomplishment, and recording of a retrofit configuration or inspection to delivered aircraft, or aircraft components.

14. AIRFRAME CHANGE (AFC) AND AIRBORNE TACTICAL SOFTWARE CHANGE (ASC). Technical directives which change configuration of aircraft structure or equipment installation, i.e. AFC, will list aircraft bureau numbers in effectivity notes and show before and after the AFC. Technical directives which change configuration of operational flight programs (OFP), i.e. ASC, will list the OFP CONFIG/IDENT NUMBER in effectivity notes and show the latest two authorized OFP programs.

Effectivity Note Examples

Effectivity Note	Definition
161362 and Up	Applicable to all F/A-18A, F/A-18B, F/A-18C, and F/A-18D for bureau numbers listed.
F/A-18A, F/A-18B	Applicable to all F/A-18A and F/A-18B.
F/A-18C, F/A-18D	Applicable to all F/A-18C and F/A-18D.
F/A-18A	Applicable to all F/A-18A, but not F/A-18B, F/A-18C, and F/A-18D.
F/A-18B	Applicable to all F/A-18B, but not F/A-18A, F/A-18C, and F/A-18D.
F/A-18C	Applicable to all F/A-18C, but not F/A-18A, F/A-18B, and F/A-18D.
F/A-18D	Applicable to all F/A-18D, but not F/A-18A, F/A-18B, and F/A-18C.
F/A-18A, F/A-18C	Applicable to all F/A-18A and F/A-18C, but not to F/A-18B and F/A-18D.
F/A-18B, F/A-18D	Applicable to all F/A-18B and F/A-18D, but not to F/A-18A and F/A-18C.
F/A-18A 161353, 161359 thru 161364	Only applicable to some bureau numbers of F/A-18A. Not applicable to any F/A-18B, even if a F/A-18B bureau number is within the numbers listed.
F/A-18C 163427, 163449 thru 163456	Only applicable to some bureau numbers of F/A-18C. Not applicable to any F/A-18D, even if a F/A-18D bureau number is within the numbers listed.
F/A-18B 161354 and Up	Only applicable to some bureau numbers of F/A-18B. Not applicable to any F/A-18A, even if an F/A-18A bureau number is within the numbers listed.
F/A-18D 163434 and Up	Only applicable to some bureau numbers of F/A-18D. Not applicable to any F/A-18C, even if a F/A-18C bureau number is within the numbers listed.
161353 thru 161356 before F18 AFC 772	Applicable to F/A-18A and F/A-18B for bureau numbers listed, before modification by technical directive.
161367 and Up, ALSO 161353 thru 161356 after F18 AFC 772 and F/A-18C, F/A-18D	Applicable to aircraft modified during production; also applicable when affected aircraft have been modified by technical directive.
P/N 74A210001-1001, 74A210001-1003, and 74A210001-1005	Applicable to F/A-18A and F/A-18B for bureau numbers listed, before modification by technical directive.
Outer Wing, Assembly Serial Number, A13-0022	Applicable to assemblies which are interchangeable between aircraft, but configurations cannot be identified by part number.

See AFC and ASC effectivity examples in Effectivity Note Example table.

15. **AIRCRAFT COMPONENT CHANGES.** Technical directives which change configuration of aircraft components, i.e. AAC, ACC, AVC, AYC, and PPC will list part numbers in the effectivities. See AVC effectivity example in Effectivity Note Example table.

16. HISTORICAL RECORD/RECORD OF APPLICABLE TECHNICAL DIRECTIVES.

17. The technical directives affecting this manual are listed in the Record of Applicable Technical Directives of each affected work package. Because an ASC directs all aircraft be modified within 30 days, ASC's are not listed. When a technical directive is rescinded, the before configuration is removed from the manual, and the technical directive entry is removed, from the Record of Applicable Technical Directives and is entered in the Historical Record of Applicable Technical Directives.

18. HOW TO USE THE MANUAL.

19. Text and illustrations contained in this manual are in work package format. These work packages are complete sets of data or procedures arranged in a logical sequence supplying instructions, references, and material/equipment requirements for maintaining the structural integrity of the wing. Work package types contained in this manual are listed below:

a. Alphabetical Index Work Package. This work package contains an alphabetical listing, by title, of each work package contained within the manual. This work package is numbered 001 00.

b. Wing Structure Group Index Work Package. This work package contains an illustration which indexes the location of each structure group. It contains a table listing item, nomenclature, part number, and work package number for location within the manual. This work package is numbered 001 01.

c. Introduction Work Package. This work package contains introductory information for the repair persons use. This work package is numbered 002 00.

d. Numerical Index of Effective Work Packages/Pages. This index (A Page) provides the user with the current status of the publication.

e. Specific Procedure Work Package. Specific procedure work packages are those which provide damage evaluation, repairs, and replacements for structure items.

Items are indexed and identified on an illustration by nomenclature, part number, description, and material.

f. Technical Publication Deficiency Report (TPDR) Work Package. This work package lists deficiency reports incorporated into a specific manual during changes/revisions. This work package is numbered TPDR-1.

20. WARNINGS, CAUTIONS, AND NOTES.

21. Items of special importance and critical information are identified in warnings, cautions, and notes. Warnings and cautions appear immediately before the step to which they apply. Notes may appear before or after the affected step.

WARNING

Warnings describe conditions or procedures that could result in injury or death if correct procedures are not followed.

CAUTION

Cautions describe conditions or procedures that could result in damage to or destruction of equipment if correct procedures are not followed.

NOTE

Notes describe or clarify conditions or procedures.

22. TECHNICAL PUBLICATION DEFICIENCY REPORTS (TPDR).

23. The TPDR (OPNAV FORM 4790/66) is the form for reporting errors and suspected omissions in the technical manuals. Reporting procedures are in OPNAVINST 4790.2 SERIES.

24. QUALITY ASSURANCE PROCEDURES.

25. Procedures or parts of procedures which require quality assurance inspection are identified by the letters (QA) after the applicable steps. When (QA) is assigned to a step or a heading which is immediately followed by substeps, the inspection requirements is applicable to all substeps.

26. When doing maintenance in any area, a visual inspection of the area will be made for cracks, corrosion, and security of component installation before securing the area for flight.

Historical Record of Applicable Technical Directives

None

ORGANIZATIONAL, INTERMEDIATE, AND DEPOT MAINTENANCE**STRUCTURE REPAIR****INNER WING SKINS AND ATTACH PINS**

Reference Material

Structure Repair, Wing	A1-F18AC-SRM-210
Inner Wing Hole Numbers	WP003 03
Strain Gages	WP023 00
Inner Wing Removal and Installation	WP025 00
Aircraft Corrosion Control	A1-F18AC-SRM-500
Inner and Outer Wing Finish System and Markings	WP027 00
Fuel System	A1-F18AC-460-300
Ground Support Equipment	WP009 01
Fuel Tank Maintenance Precautions and General Preparation	WP013 00
Line Maintenance Access Doors	A1-F18AC-LMM-010
Line Maintenance Procedures	A1-F18AC-LMM-000
Nondestructive Inspection	A1-F18AC-SRM-300
Pulse Echo, Longitudinal Wave Contact without Delay Line, for Composite	
Laminate Material	WP008 02
Pulse Echo, Longitudinal Wave Contact with Delay Line, for Composite	
Laminate Material	WP008 03
Inner Wing Upper and Lower Titanium Splice Fitting Areas Skin to Titanium Splice Fitting	
Unbonds and Skin Delaminations	WP023 00
Plane Captain Manual	A1-F18AC-PCM-000
Structure Repair, General Information	A1-F18AC-SRM-200
Introduction	WP002 00
Locating Blind Holes and Trim Lines	WP004 03
Drilling and Machining Composites	WP004 08
Adhesive, Cement, Sealant; Preparation and Application	WP011 00
Structure Repair, Typical Repair	A1-F18AC-SRM-250
Curing of Repairs	WP004 00
Graphite Epoxy Skin, Class I Damage Repair	WP008 00
Graphite Epoxy Skin, Class III Damage Repair	WP010 00
Graphite Epoxy Skin, Class IV Damage Repair	WP011 00
Graphite Epoxy Skin, Class V Damage Repair	WP011 01
Titanium Sheet, Free of Structure and Land Areas	WP032 00
Titanium Sheet Repairs Across Structure and Land	WP037 00
Blending	WP038 00
Aircraft Fuel Cells and Internal/External Tanks	NAVAIR 01-1A-35
Aircraft Weapons Systems Cleaning and Corrosion Control	NAVAIR 01-1A-509
Passivation Treatments for Corrosion-Resisting Steel	QQ-P-35B

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Record of Applicable Technical Directives

None

1. **COMPOSITE SKIN.**

2. **DAMAGE EVALUATION.** See figures 1 and 2. Damage is classified as negligible and repairable. Locating and determining size of damage by visual method is organizational maintenance. Locating and determining size of damage by NDI method is intermediate maintenance. Damage not listed or exceeding limits below requires depot engineering disposition.

3. **Negligible Damage.** See figure 3. Negligible damage may be allowed to exist as is. Type and limits are:

a. Delaminations between skin plies. See section A. Determine size of delamination (A1-F18AC-SRM-300, WP008 02 and WP008 03).

(1) Delaminations do not extend to edge of skin.

(2) Delaminations are at least 0.021 below skin surface.

(3) Diameter is 0.50 inch or less.

(4) Distance between delaminations is at least four times the diameter of the largest delamination.

(5) No more than three delaminations in a 12 inch diameter circle.

4. **Repairable Damage.** Repairable damage is damage that can be permanently repaired with no adverse affect on structural integrity, flight characteristics, or safety of aircraft.

5. **Skin Surface Damage and Dents, Class I Damage.** See figure 4, section A. Class I damage is:

a. Cuts, scratches, pits, erosion, or abrasions.

(1) Depth is no more than 0.005 inch.

(2) No longer than 5.0 inches.

b. Dents.

(1) Depth is no more than 0.015 inch.

(2) There is no skin ply delaminations related to the dent.

(3) Fiber damage is no more than 0.005 inch depth.

(4) No more than three dents in a 5.0 inch diameter circle.

(5) Distance between dents is at least four times the diameter of the largest dent. Measure distance between dents edge to edge.

6. **Loose Fiber Damage Around Fastener Holes and/or Countersinks and Surface Rips, Class III Damage.** See figure 4, sections B and C. Class III damage is:

a. Surface ply rips.

(1) Depth is no more than 0.010 inch.

(2) Width is no more than 0.25 inch.

(3) No longer than 2.0 inches.

b. Loose or missing fibers or skin abrasions around fastener holes and/or countersinks.

(1) Depth is no more than 0.010 inch.

(2) Width is no more than 0.25 inch.

(3) No longer than 2.0 inches.

7. **Skin Penetration, Class IV Damage.** See figure 4, section D. Class IV damage is skin damage which does not exceed the limits below:

a. Damage must be in a repair zone, figure 2.

b. Mark damaged area determined by NDI (A1-F18AC-SRM-300, WP008 02 and WP008 03) to the smallest diameter of cut outs 1.25 inch, 2.00 inch, 3.00 inch, or 4.00 inch as shown in figure 4, Section E.

c. Distance between repairs is more than 6 times the diameter of damage cutout.

d. Edge of damage must be located within minimum dimension as shown on figure 4, view E.

8. **Delaminations, Class V Damage.** See figure 4, sections F, G, and H. Determine size of delaminations (A1-F18AC-SRM-300, WP023 00). Class V damage is delamination which does not exceed limits below:

a. Delamination not open to edge, see section F.

(1) Must not be over a splice plate.

(2) Damage must be located within a 3.0 inch diameter circle.

(3) Multiple delaminations located within a 3.0 inch diameter circle shall be considered as one damage.

(4) Minimum spacing measured edge to edge between damages shall be four diameters of the largest damage.

b. Delamination open to edge, see sections G and H.

(1) Must not be over a splice plate.

(2) Damage must not be over 0.50 inch.

9. **REPAIRS.** Class I, III, and V are organizational maintenance. Class IV is intermediate maintenance. Damages can be repaired by the procedures below:

Support Equipment Required

**Specification
or Part Number**

Nomenclature

MA-1

Exhaust Blower

Materials Required

None

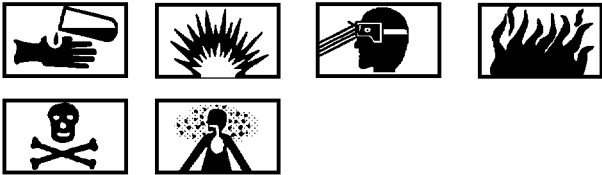
WARNING

Installation of an overweight repair could cause failure of skins, resulting in loss of life or injury. Engineering approval of repair is required.

- a. Repair Class I damage (A1-F18AC-SRM-250, WP008 00).
- b. Repair Class III damage (A1-F18AC-SRM-250, WP010 00).
- c. Class IV damage.

(1) Observe applicable fuel tank maintenance precautions (A1-F18AC-460-300, WP013 00).

(2) Defuel aircraft (A1-F18AC-PCM-000).



Jet Fuel

1

(3) Drain residual fuel by positioning an approved safety container under wing fuel drain valve.

WARNING

To prevent personal injury, do not stand directly under drain valve.

- (4) Open drain valve (A1-F18AC-LMM-000).
- (5) Close drain valve when residual fuel has drained (A1-F18AC-LMM-000).
- (6) Ground exhaust blower to approved static ground.

(7) Remove doors 76 and 77 (A1-F18AC-LMM-010).

(8) Purge wing fuel tank with exhaust blower until a safe indication is displayed on the combustible gas indicator (A1-F18AC-460-300, WP009 01). For purging (NAVAIR 01-1A-35).

(9) Select patch per Patch Selection, this WP. Repair class IV damage (A1-F18AC-SRM-250, WP011 00).

(10) Install doors 76 and 77 (A1-F18AC-LMM-010).

(11) Refuel aircraft and check repair area for leaks.

d. Repair Class V damage (A1-F18AC-SRM-250, WP011 01).

10. **Patch Selection.** Select applicable patch.

NOTE

Patches are part of 74K000006 bolted repair kit (A1-F18AC-SRM-250, WP011 00).

- a. For 1.25 inch diameter, use -1001 patch.
- b. For 2.00 inch diameter, use -1003 patch.
- c. For 3.00 inch diameter, use -1005 patch.
- d. For 4.00 inch diameter, use -1007 patch.

11. **REPAIR OF INNER WING SKIN DAMAGE.** See figure 5. Repair of wing skin aft of 74A110713 plate, inboard pylon forward attach point is made per figure 5 and steps below.

Support Equipment Required

None

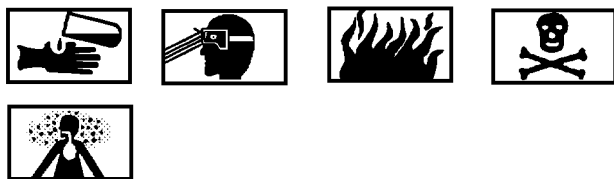
Materials Required

Specification or Part Number	Nomenclature
EA956	Adhesive
CCC-C-440 Type 1, Class 1	Cheesecloth
A-A-1047, GRIT 320-9X11	Paper, Abrasive, Silicon Carbide

NOTE

Make sure mismatch is no more than 0.060 inch. If mismatch is more than 0.060 inch, engineering disposition is required.

- a. Measure mismatch of outer mold line skin to titanium plate.
- b. Sand mismatch of outer mold line skin per figure 5, section A. Wipe repair surface clean.



Adhesive

2

- c. Prepare EA956 adhesive (A1-F18AC-SRM-200, WP011 00).

- d. Smooth surface by applying layer of adhesive to sanded surface.

- e. Cure adhesive (A1-F18AC-SRM-250, WP004 00).

- f. Refinish surface (A1-F18AC-SRM-500, WP027 00).

12. **FASTENER HOLE REPAIR.** See figure 6. This repair is for hole number 992, on the lower skin at the wing fold. For location of hole numbers (WP003 03). This repair is intermediate level maintenance.

Support Equipment Required

None

Materials Required

Specification or Part Number	Nomenclature
EA9321A/B	Adhesive
EA956	Adhesive

Materials Required (Continued)

Specification or Part Number	Nomenclature
H-B-695, Type 1, Grade A	Brush, Varnish
CCC-C-440 Type 1, Class 1 222555	Cheesecloth
-	Cleaner, Metal, for Aluminum
-	Glass Floc, 1/32-Inch Milled Glass Fibers
MS-122	Lubricant Fluorocarbon
TT-M-261	Methyl Ethyl Ketone
A-A-1047, Grit 320-9X11	Paper, Abrasive, Silicon Carbide
AMS 5737	Steel Alloy, A-286

- a. Remove fastener from hole number 992.

- b. Lightly sand skin damage around fastener hole using abrasive paper.

- c. Counterbore fastener hole per dimensions, view A, to remove countersink. For drilling procedures (A1-F18AC-SRM-200, WP004 08).

- d. Fabricate a filler washer from steel alloy per dimensions, view B. Countersink the washer for fastener head.

- e. Passivate filler washer, after all machining is complete, per federal specification (QQ-P-35).

- f. Wipe washer with clean dry cheesecloth.



Metal Cleaner

3

- g. Brush apply metal cleaner to filler washer. Apply at room temperature. To keep from drying out, apply as required to keep wet for at least 15 minutes.

- h. Wipe off metal cleaner with clean, dry cheesecloth.

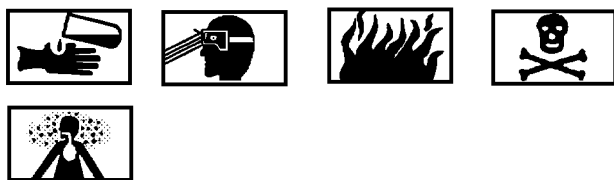
- i. Thoroughly remove any metal cleaner residue from filler washer using clean cheesecloth saturated with tap water.



Methyl Ethyl Ketone

4

j. Wipe counter bore with clean cheesecloth moistened with methyl ethyl ketone. Dry counterbore surface with clean, dry cheesecloth.



Adhesive

5

k. Bond washer in counterboard fastener hole using EA9321 A/B adhesive per Adhesive Preparation and Application (A1-F18AC-SRM-200, WP011 00).

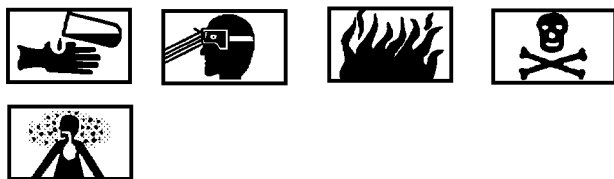


Release Agent/Lubricant

6

l. Coat initial fastener with lubricant and install through washer and in to wing to provide pressure while adhesive cures.

m. Cure adhesive at room temperature for 24 hours.



Adhesive

2

n. Prepare EA956 adhesive per Adhesive Preparation and Application (A1-F18AC-SRM-200, WP011 00).

o. Add to prepared EA956 adhesive by weight 14 parts glass floc.

p. Thoroughly mix glass floc with EA956 adhesive before applying.

q. Fill damaged skin area around fastener hole with EA956 adhesive.

r. Cure EA956 adhesive/glass floc compound (A1-F18AC-SRM-250, WP004 00).

s. Install fastener in hole number 992.

t. Refinish repaired area (A1-F18AC-SRM-500, WP027 00).

13. Inboard Pylon Preload Post Abrasion Repair. See figure 11. This repair is to prevent skin damage aft of the pylon post bushing hole.

Support Equipment Required

None

Materials Required

Specification or Part Number

Nomenclature

EA9321A/B

Adhesive

M83953-2

Pencil, Aircraft

L-P-410 NYLON 6/6

Plastic Sheet

0.125 Dia. X 0.040

Inch Thick

a. Remove door 20 if it interferes with steps below (A1-F18AC-LMM-010).

b. Locate center point for location of pad:

(1) Mark midpoint between fasteners 445 and 447, view A.

(2) Mark midpoint between fasteners 442 and 450, view A.

(3) Mark a line connecting the two midpoints, view A. Extend the line aft to where the 74A110713 splice plate and composite skin connect.

(4) Mark a crosshair on the pylon centerline 0.52 inches forward of the splice plate end of part, view A.

(5) Mark a line 2.0 inches in length perpendicular to the pylon centerline at the crosshair, view A.

NOTE

Do not cut trim line at this time.

c. Cut the 1.25 inch diameter pad from the plastic sheet material, view B.

d. Mark a crosshair centerline across complete face of the pad, view B.

e. Locate pad on lower skin, centerline to centerline.

f. Mark a line on the pad where the pad overlaps the composite skin, view B.

g. Trim off small piece of pad so that pad rests completely on 74A110713 splice plate, view B.



Adhesive

5

h. Align crosshair centerlines and bond pad to splice plate with adhesive (A1-F18AC-SRM-200, WP011 00). Apply adhesive at approximately 10 to 15 mils thick.

i. Reinstall door 20 if removed (A1-F18AC-LMM-010).

14. METAL SKINS AND STRUCTURE.

15. **DAMAGE EVALUATION.** See figures 1 and 7. Damage is classified as negligible and repairable. The types of materials used are shown on figure 1. Repair zones are shown in figure 7. Allowable damage limits within repair zones are listed in tables 1 and 2. Repair to titanium sheet across structure or land areas, 0.063 inch material or thicker is repair zone B2 in depot maintenance. Damage not listed or exceeding the following limits require a depot engineering disposition.

16. **Negligible Damage.** Negligible damage is damage that may be allowed to exist as is. However, preventive maintenance, for temporary corrosion arrestment, should be done to scratches (NAVAIR 01-1A-509). The types and limits of damage are listed below and in table 1. The figure and index numbers in table 1 coincide with the figure and index numbers in the material index.

a. Scratches are not allowed within one diameter from the edge of any hole.

b. Smooth dents only, effective diameter at least 20 times the depth.

17. **Repairable Damage.** The types and limits of damage are listed below and in table 2. The figure and index numbers in table 2 coincide with figure and index numbers in the material index, figure 1.

NOTE

The limits in table 2 apply after blending the damage.

a. Scratches.

(1) Any scratches within one diameter of any hole must be blended out. Minimum blend out is one diameter from edge of any hole.

(2) Scratches to be blended out with diameter, or width, at surface at least 20 times the depth.

b. Nicks, gouges, and corrosion to be blended out with diameter, or width, at surface at least 20 times the depth.

c. Cracks. All cracks must be repaired.

d. Holes.

(1) Damage in areas free of structure and lands must have edge of cleanup hole at least eight repair fasteners diameters from any land, internal structure, or existing row of fasteners.

(2) Damage to lands, overstructure. Only one repair per land.

e. Dents exceeding the limits in table 1 must be repaired.

18. **REPAIRS.** Types of repairs are temporary, one-time flight, permanent critical area, alternate and typical. Repair type definition are in Structure Repair Terms (A1-F18AC-SRM-200, WP002 00).

WARNING

Installation of an overweight repair could cause failure of skins, resulting in loss of life or injury. Engineering approval of repairs on the skins is required.

19. Permanent Repairs.

20. Scratches, Nicks, Gouges or Corrosion. Blend scratches, nicks, gouges or corrosion (A1-F18AC-SRM-250, WP038 00). If, after blending the damage limits of table 2 are exceeded, repair titanium sheet. Refinish blended areas (A1-F18AC-SRM-500, WP027 00).

a. Scratches - make crack or edge repair.

b. Nicks, gouges, or corrosion - make hole or edge repair.

21. Cracks.

a. Repairs to cracks across structure or land areas in titanium sheet require a depot engineering disposition.

b. In repair zone B2, repair cracks free of structure or land areas in titanium sheet (A1-F18AC-SRM-250, WP037 00).

(1) Cut out damage in smallest diameter circle.

(2) Install type two flush or lap patch.

(3) Refinish repaired area (A1-F18AC-SRM-500, WP027 00).

22. Holes.

a. In repair zone B2, repair holes free of structure or land areas in titanium sheet (A1-F18AC-SRM-250, WP032 00).

(1) Cut out damage in smallest diameter circle.

(2) Install type two flush or lap patch.

(3) Refinish repaired area (A1-F18AC-SRM-500, WP027 00).

b. In repair zone B2, repair holes across structure or land areas in titanium sheet require a depot engineering disposition.

23. Edge. In repair zone B2, repair of edge damage in titanium sheet requires depot engineering disposition.

24. Dents.

a. In repair zone B2, repair dents free of structure or land areas in titanium sheet (A1-F18AC-SRM-250, WP032 00).

(1) Cut out damage in smallest diameter circle.

(2) Install type two flush or lap patch.

(3) Refinish repaired area (A1-F18AC-SRM-500, WP027 00).

b. In repair zone B2, across structure or land areas in titanium sheet require a depot engineering disposition.

25. SEAL.

26. DAMAGE EVALUATION. See figure 1. The figure identifies types of material used. The data shown can be used to analyze the damage.

27. Negligible Damage. Damage requires a depot engineering disposition.

28. Repairable Damage. Damage requires a depot engineering disposition.

29. REPAIRS. Repairs require a depot engineering disposition.

30. REPLACEMENT.

31. Seal, 74A110714. Seal is replaceable and requires trimming and drilling. For method of locating trim lines and blind holes (A1-F18AC-SRM-200, WP004 03). For bonding and sealing (A1-F18AC-SRM-200, WP011 00). Fasteners are shown on figure 8. Install seal assembly as below:

Support Equipment Required

None

Materials Required**Specification
or Part Number****Nomenclature**

MIL-S-83430

Sealing Compound

Silastic 732 RTV

Adhesive

- a. Trim seal, see figure.



Adhesive

7

- b. Bond shim to seal with adhesive.

- c. Install fasteners.



Sealing Compound

8

- d. Overseal fastener heads with sealing compound (A1-F18AC-SRM-200, WP011 00).

32. **Seal 74A110715.** Seal is replaceable and requires trimming and drilling. For method of locating trim lines and blind holes (A1-F18AC-SRM-200, WP004 03). For sealing (A1-F18AC-SRM-200, WP011 00). Fasteners are shown on figure 8. Install seal assembly as below:

Support Equipment Required

None

Materials Required**Specification
or Part Number****Nomenclature**

MIL-S-83430

Sealing Compound

- a. Trim and drill seal.

- b. Install fasteners.



Sealing Compound

8

- c. Overseal fastener heads with sealing compound (A1-F18AC-SRM-200, WP011 00).

33. **Filler (74A110866) Replacement.** See figure 9.

Support Equipment Required**Part Number****Type Designation****Nomenclature**

-

Sealant Scraper, 45°
Cutting Edge, Phenolic
(Micarta or Formica)

Materials Required**Specification
or Part Number****Nomenclature**MIL-S-83430,
Class B/1-2

Sealing Compound

MIL-S-8802, Type 2
Class B/1-2

Sealing Compound

MIL-S-81733,
Type 1-2

Sealing Compound

CCC-C-440, Type 1,
Class 1

Cheesecloth

A-A-1047, GRIT
320-9X11Paper, Abrasive
Silicon CarbideMIL-G-3866,
Type 1Gloves, Cotton
Work, Men's14M201-1, NYLON
EXTRUSION

Filler (Fabricate)

TT-I-735

Isopropyl Alcohol

- a. Remove damaged filler and/or all sealing compound remaining in wing fold rib using sealant scraper, detail A.



Isopropyl Alcohol

9

- b. Remove residual sealing compound using clean cheesecloth moistened with isopropyl alcohol.

- c. Apply finish system if bare metal is exposed (A1-F18AC-SRM-500, WP027 00).

- d. Fabricate new filler per detail B.
- e. Position filler on wing fold rib and trim length to fit.



Wear clean cotton gloves to prevent contamination of filler. Sealing compound will not bond to contaminated surfaces.

- f. Remove filler and lightly abrade all surfaces of filler using 320 grit abrasive paper.
- g. Wipe sanding residue from filler using clean, dry cheesecloth.



Sealing Compound

8



Sealing compound

10



Sealing Compound

11

- h. Apply sealing compound to wing fold rib and underside of filler. For preparation and application (A1-F18AC-SRM-200, WP011 00).

NOTE

Avoid pushing excess sealing compound into tang/chine area of wing fold transmission.

- i. Press filler in place submerging 6 inches of leading edge end of filler into sealing compound.
- j. Make sure sealing compound has squeezed through each countersink hole in filler; add additional

sealing compound to fill countersink holes that sealing compound has failed to penetrate.

NOTE

Intermittent exposure of filler acceptable.

- k. Add additional sealing compound as required to make a faired surface.

- l. Cure sealing compound (A1-F18AC-SRM-200, WP011 00).

- m. Apply finish system as required (A1-F18AC-SRM-500, WP027 00).

34. STRAIN GAGES.

- 35. REPLACEMENT. See figure 1, detail F. Removal and installation of strain gages is depot maintenance (WP023 00).

36. ATTACH PINS.

- 37. RESEALING AND RETORQUING PROCEDURES. See figure 10.

Support Equipment Required

Part Number or Type Designation	Nomenclature
-	Torque Wrench, 0 to 120 Inch-Pounds

Materials Required

Specification or Part Number	Nomenclature
MS24665-153	Cotter Pin
MIL-A-9962	Mat, Abrasive
-	Scraper, Sealant, 45° Cutting Edge, Phenolic (Micarta or Formica)
MIL-S-83430	Sealing Compound
VV-P-236	Petrolatum, Technical
CCC-C-440, Type 1, Class 1	Cheesecloth
TT-I-735	Isopropyl Alcohol

a. Cut sealant around bolt head, cap, and nut with a nonmetallic scraper.

b. Remove cotter pin, nut, and washer from bolt, remove bolt and cap from attach pin.

c. Remove remaining sealant from the nut, bolt head, cap, and wing lugs with a nonmetallic scraper or abrasive mat.



Isopropyl Alcohol

9

d. Wipe cap and clean wing lug with cheesecloth moistened with isopropyl alcohol until no sign of residue remains on cheesecloth.

e. Dry cap and wing lug with clean, dry cheesecloth.



Petrolatum, Technical

12

f. Apply a thin film of petrolatum to mating surfaces of cap and wing lug using cheesecloth.



Sealing Compound

8

g. Fay seal cap with sealing compound (A1-F18AC-SRM-200, WP011 00).

h. Install caps and bolt into attach pin.

i. Install washer and nut on bolt, torque nut 60 to 85 inch-pounds. Install cotter pin. (QA)

j. Fillet seal around bolt head, and nut with sealing compound (A1-F18AC-SRM-200, WP011 00).

38. **REMOVAL AND INSTALLATION.** For removal and installation sequence and equipment required, (WP025 00).

Table 1. Negligible Damage Limits

Fig No Idx No	Nomen/ Repair Zone	Thickness	Scratch Depth	Nicks Gouges		Dents Depth	Rivet Tilt
				Depth	Area		
Fig 1 (4) 1	Fitting Zone D2	forging	0.0006	0.0006	100%	2	2
Fig 1 (6)	Member	All	0.0006	0.0006	100%	0.020	N/A
Fig 1 (7)	Cover	All	0.0006	0.0006	100%	0.020	N/A
Fig 1 (11) 1	Fitting Zone D2	forging	0.0006	0.0006	100%	2	2
Fig 1 (13)	Skin Zone B2	0.180	0.0006	0.0006	100%	2	2
Fig 1 (15)	Skin Zone B2	0.190	0.0006	0.0006	100%	2	2
		0.150	0.0006	0.0006	100%	2	2
		0.130	0.0006	0.0006	100%	2	2
Fig 1 (17)	Retainer	0.020	0.002	0.002	30%	0.020	10%
Fig 1 (18)	Shim	All	3	3	30%	0.020	10%
Fig 1 (20)	Retainer	0.020	0.002	0.002	30%	0.020	10%
Fig 1 (21)	Plate	All	0.0006	0.0006	6%	0.005	DNA
Fig 1 (22)	Plate	All	0.0006	0.0006	6%	0.005	DNA
Fig 1 (23)	Plate	All	0.0006	0.0006	6%	0.005	DNA

NOTES

- 1 These allowables are for outer moldline surface only. All scratches, gouges, and damage in other areas must have an engineering disposition.
- 2 None allowed.
- 3 Up to 10% of thickness is acceptable.

Table 2. Repairable Damage Limits After Blending

Fig No Idx No	Nomen/ Repair Zone	Thickness	Edge Nicks Depth	Scratch Depth	Nicks Gouges		Corrosion	
					Depth	Area	Depth	Area
Fig 1 (4) 1	Fitting Zone D2	forging	N/A	0.012	0.012	5%	0.012	5%
Fig 1 (6) 2	Member	All	0.050	0.010	0.010	6%	0.010	6%
Fig 1 (6) 4	Member	All	0.050	0.016	0.016	6%	0.016	6%
Fig 1 (6) 3	Member	All	0.050	0.014	0.014	6%	0.014	6%
Fig 1 (7)	Cover	All	0.050	0.014	0.014	6%	0.014	6%
Fig 1 (11) 1	Fitting Zone D2	forging	N/A	0.012	0.012	5%	0.012	5%
Fig 1 (13)	Skin Zone B2 Land Bay	0.180	N/A	0.010	0.010	50%	0.010	50%
		0.180	N/A	0.036	0.036	50%	0.036	50%
Fig 1 (15)	Skin Zone B2	0.190		0.010	0.010	50%	0.010	50%
		0.150		0.010	0.010	50%	0.010	50%
		0.130		0.010	0.010	50%	0.010	50%
Fig 1 (17)	Retainer	0.020	0.080	0.005	0.005	50%	0.005	50%
Fig 1 (18)	Shim	All	0.080	5	5	50%	5	50%
Fig 1 (20)	Retainer	0.020	0.080	0.005	0.005	50%	0.005	50%
Fig 1 (21)	Plate	All	0.050	0.010	0.010	6%	0.010	6%
Fig 1 (22)	Plate	All	0.050	0.010	0.010	6%	0.010	6%
Fig 1 (23)	Plate	All	0.050	0.010	0.010	6%	0.010	6%

NOTES

- 1 These allowables are for outer moldline surface only. All scratches, gouges, and damage in other areas must have an engineering disposition.
- 2 74A110632-2005, -2006
- 3 74A110632-2007, -2008
- 4 74A110632-2009, -2010
- 5 Up to 25% thickness is acceptable local minor surface damage.
- 6 The maximum permissible depth for any blended damage is 0.010 within one diameter of fastener hole.

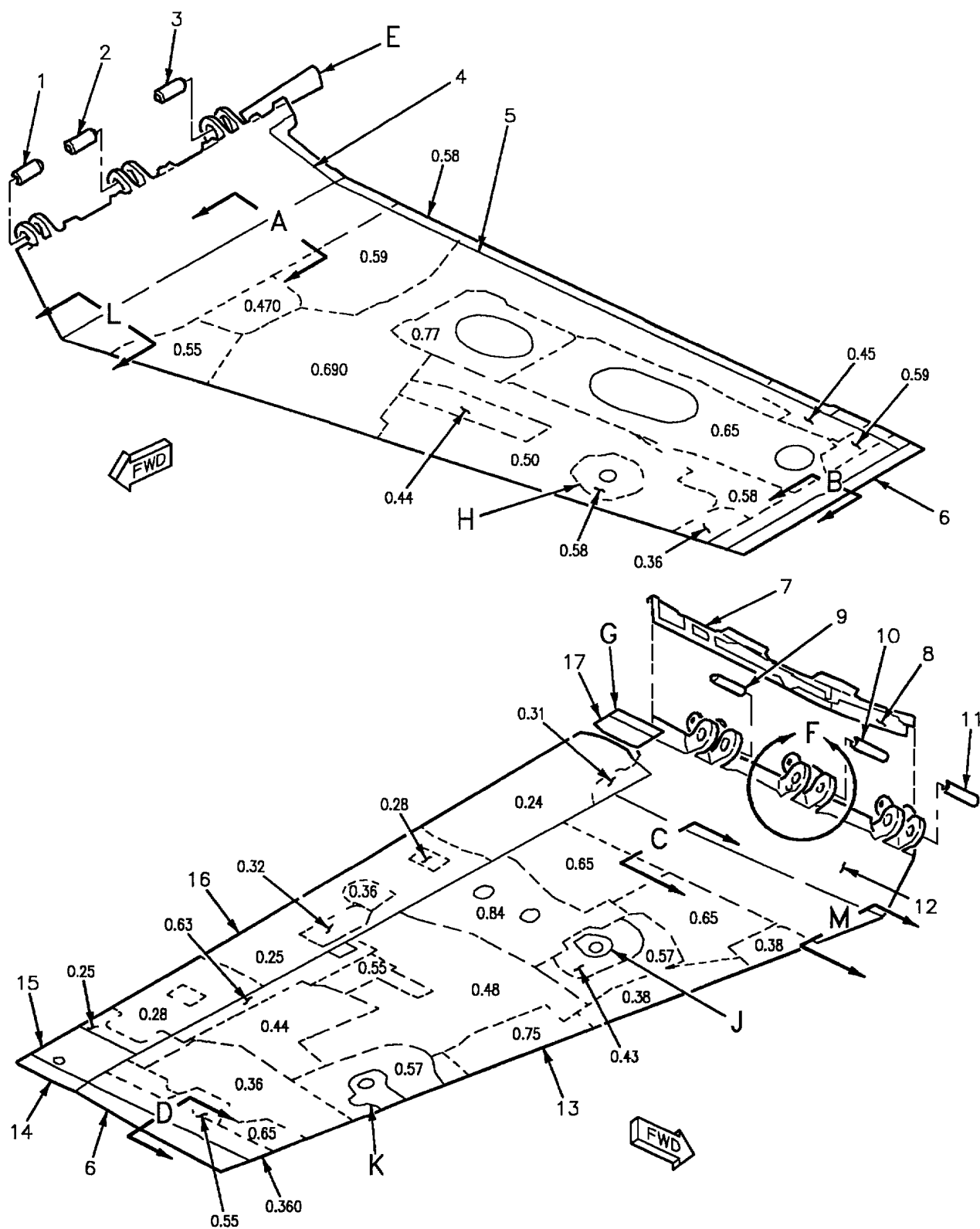


Figure 1. Material Index (Sheet 1)

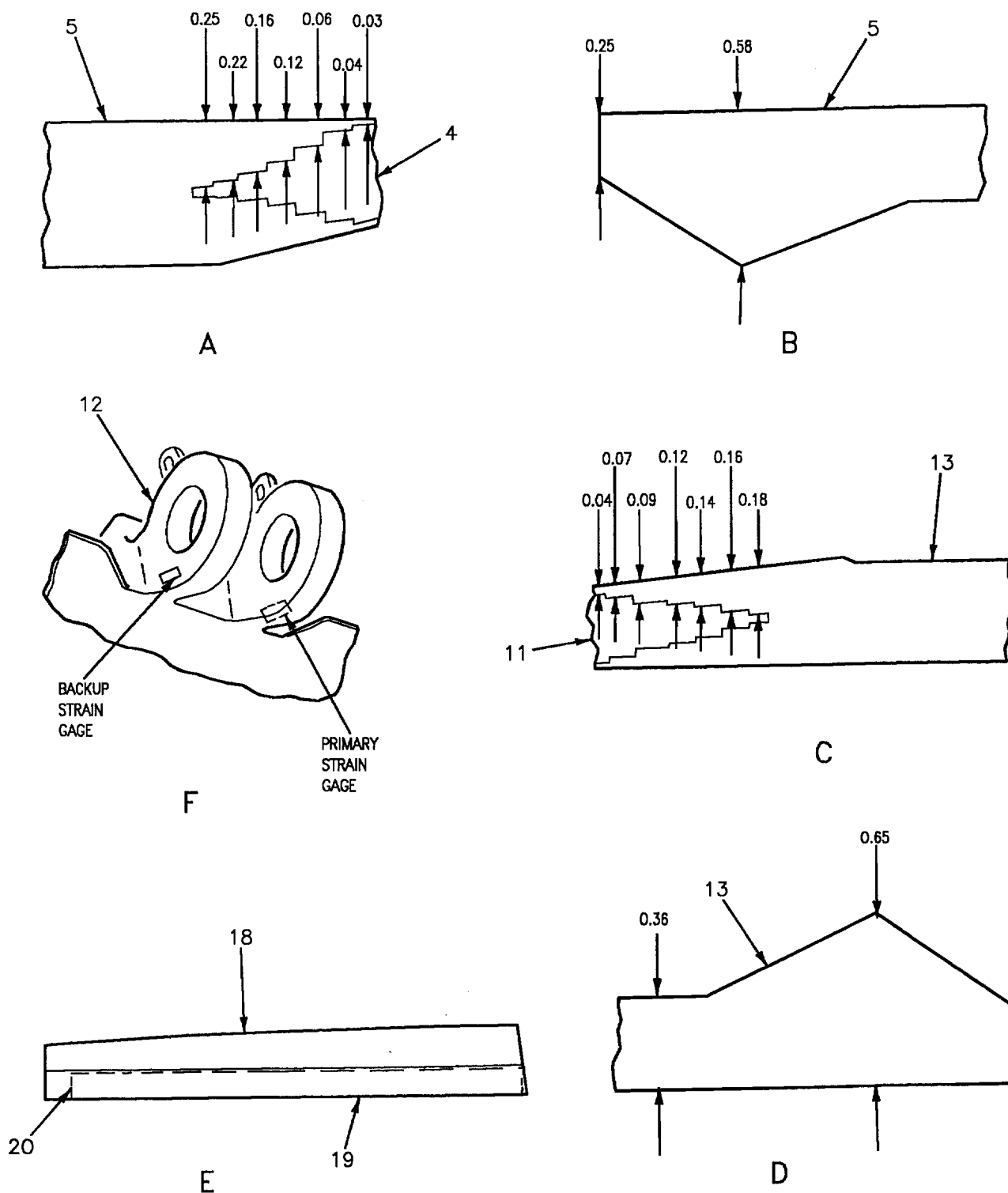
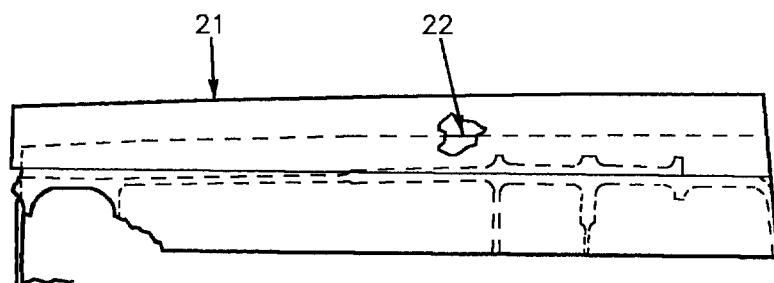
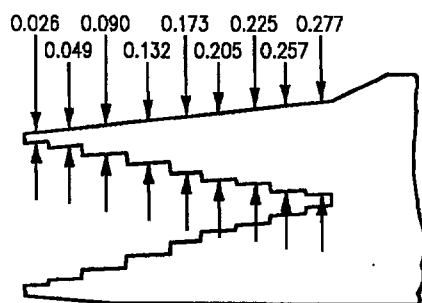


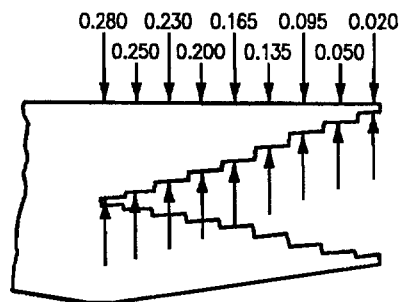
Figure 1. Material Index (Sheet 2)



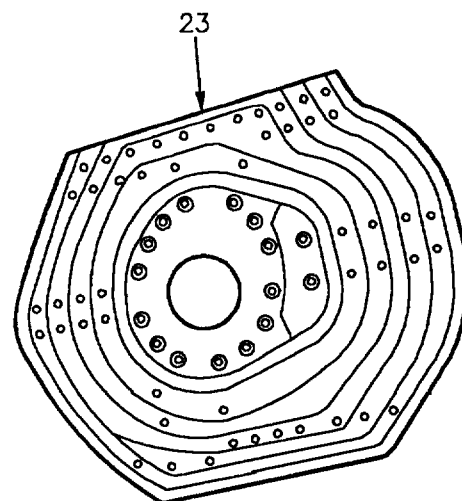
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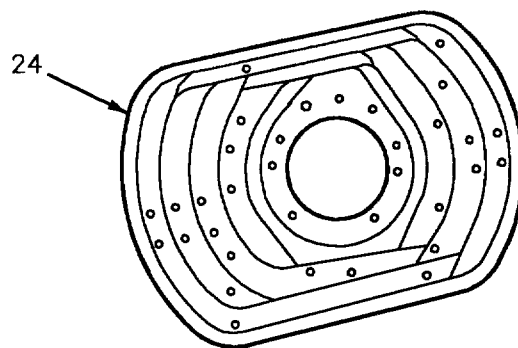
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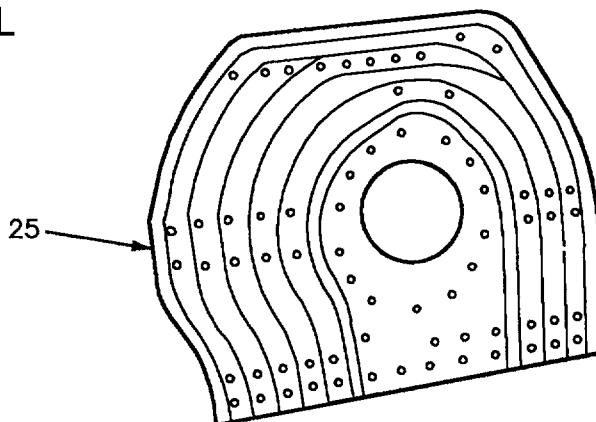
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J



K

Figure 1. Material Index (Sheet 3)

IDX NO.	EFT	Nomenclature and Part No.	Description	Material
1		Pin Assy 74A110680-1005	Machining	PH13-8MO Cres
2		Pin Assy 74A110680-1001	Machining	PH13-8MO Cres
3		Pin Assy 74A110680-1003	Machining	PH13-8MO Cres
4 L R L R	 	Fitting 74A110602-2017 74A110602-2018 74A110602-2019 74A110602-2020	Forging	6A1-4V Ti Anl
5	 	Skin 74A110600-2379, -2380 74A110600-2309, -2310	Laminate	
6		Filler 74A110866-3759	14M201-1 Extrusion	Nylon
7	 	Member 74A110632-2005, -2006 74A110632-2009 74A110632-2010 74A110632-2007 74A110632-2008	1MA160 Extrusion	7075-T73511 Al Aly
8	 	Cover 74A110844-2003, -2004 74A110844-2005, -2006 74A110844-2007, -2008	0.160 Sheet	7075-T76 Alclad
9		Pin 74A110679-2021	Machining	PH13-8MO Cres
10		Pin 74A110679-2019	Machining	PH13-8MO Cres
11		Pin 74A110679-2023	Machining	PH13-8MO Cres
12	 	Fitting 74A110603-2019 74A110603-2020 74A110603-2021 74A110603-2022 74A110603-2023 74A110603-2024	Forging	6A1-4V Ti Anl

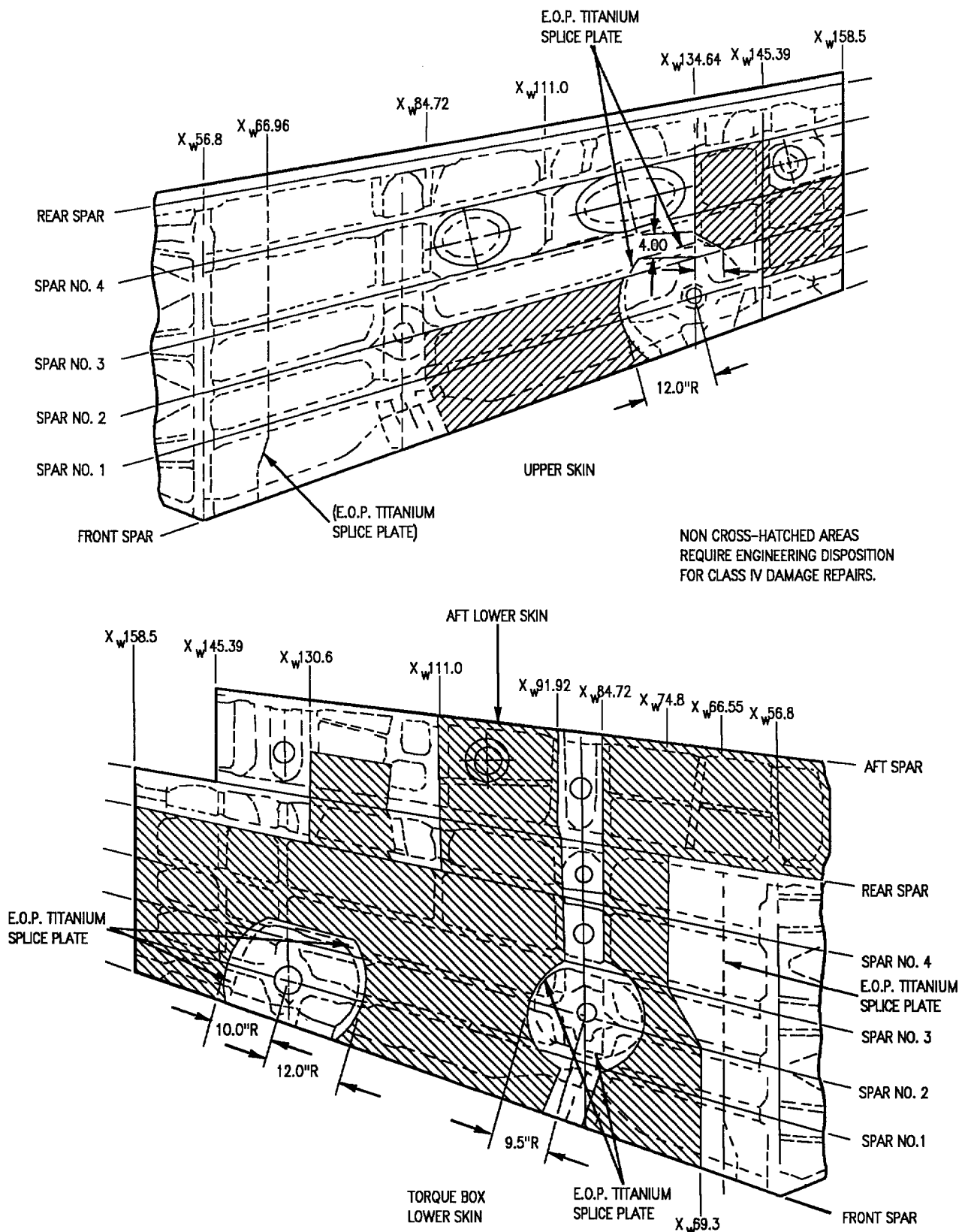
Figure 1. Material Index (Sheet 4)

IDX NO.	EFT	Nomenclature and Part No.	Description	Material
13	<div>11</div> <div>12</div> <div>17</div> <div>9</div>	Skin 74A110601-1013 74A110601-1014 74A110601-1015 74A110601-1016	<div>22</div> Laminate	<div>23</div>
14	<div>28</div> <div>27</div>	Skin 74A110907-2019, -2020 74A110907-2037, -2038	0.063 Sheet	7075-T6 Alclad
15		Skin 74A110645-2011, -2012	0.180 Sheet	6Al-4V Ti Anl
16	<div>18</div> <div>19</div> <div>20</div> <div>21</div>	Skin 74A110954-1001 74A110954-1002 74A110954-1003 74A110954-1004	<div>22</div> Laminate	<div>23</div>
17		Skin 74A110855-2005, -2006	<div>24</div> 0.190 Sheet	6Al-4V Ti Anl
18		Seal 74A110714-2003, -2004	11M969 Extr	Silicone Rubber
19		Retainer 74A110714-2001, -2002	0.020 Sheet	301 Cres
20		Shim 74A110866-3481	0.100 Sheet	6061-T6 A1 Aly
21		Seal 74A110715-2001, -2002	11M1008 Extr	Silicone Rubber
22		Retainer 74A110715-2003, -2004	0.020 Sheet	301 Cres
23		Plate 74A110711-2009, -2010	Machining	6AL-4V Ti Anl
24		Plate 74A110713-2005, -2006	Machining	6AL-4V Ti Anl
25		Plate 74A110712-2005, -2006	Machining	6AL-4V Ti Anl
LEGEND <div>1</div> 161353 thru 161363, 161519 thru 161741, 161747, 161749 thru 161750, 161970, 162477. <div>2</div> 161353 thru 161743, 161747, 161750, 161964, 162441, 162852. <div>3</div> 161742 thru 161745, 161748, 161751 thru 161969, 161971 thru 162476, 161826 and Up. <div>4</div> 161744 thru 161745, 161748 thru 161749, 161751 thru 161963, 161965 thru 162851, 162853 and Up.				

Figure 1. Material Index (Sheet 5)

IDX NO.	EFT	Nomenclature and Part No.	Description	Material
5		161353 thru 161704.		
6		161705 thru 161712, 161715		
7		161705 thru 161712.		
8		161713, 161716 and Up.		
9		161713 and Up.		
10		161353 thru 161704.		
11		161353 thru 161715.		
12		161353 thru 161712.		
13		161713, 161716 thru 161739, 161742, 161942, 161946, 161964, 161973.		
14		161713 thru 161739, 161743 thru 161744, 161747, 161753, 161941, 161961, 161972.		
15		161741, 161743 thru 161941, 161944 thru 161945, 161948 thru 161963, 161965 thru 161972, 161974 and Up.		
16		161741 thru 161742, 161745, 161748 thru 161752, 161754 thru 161940, 161942 thru 161960, 161962 thru 161971, 161973 and Up.		
17		161713, 161716 and Up.		
18		161353 thru 161528, 161703 thru 161706, 161709, 161720.		
19		161353 thru 161706, 161709.		
20		161702, 161708, 161710 thru 161718, 161721 and Up.		
21		161708, 161710 and Up.		
22		Laminated of varying plies.		
23		Graphite epoxy prepreg with top ply of glass epoxy prepreg.		
24		Edge is 0.150, center is 0.190.		
25		161353 thru 162477.		
26		162826 and Up.		
27		163119 and Up.		
28		161353 thru 163118.		

Figure 1. Material Index (Sheet 6)



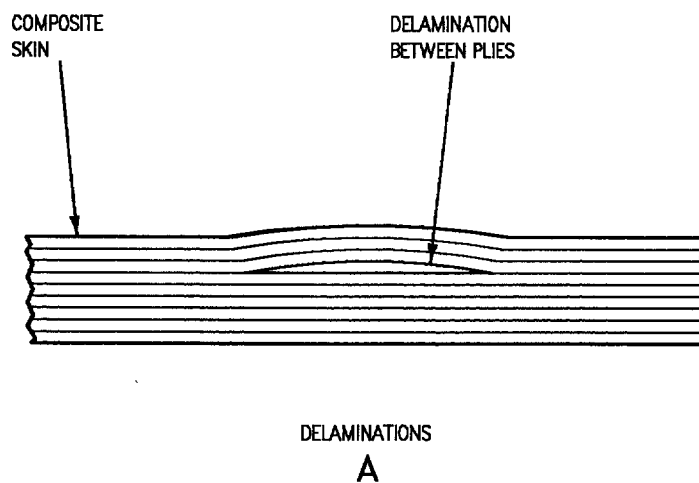
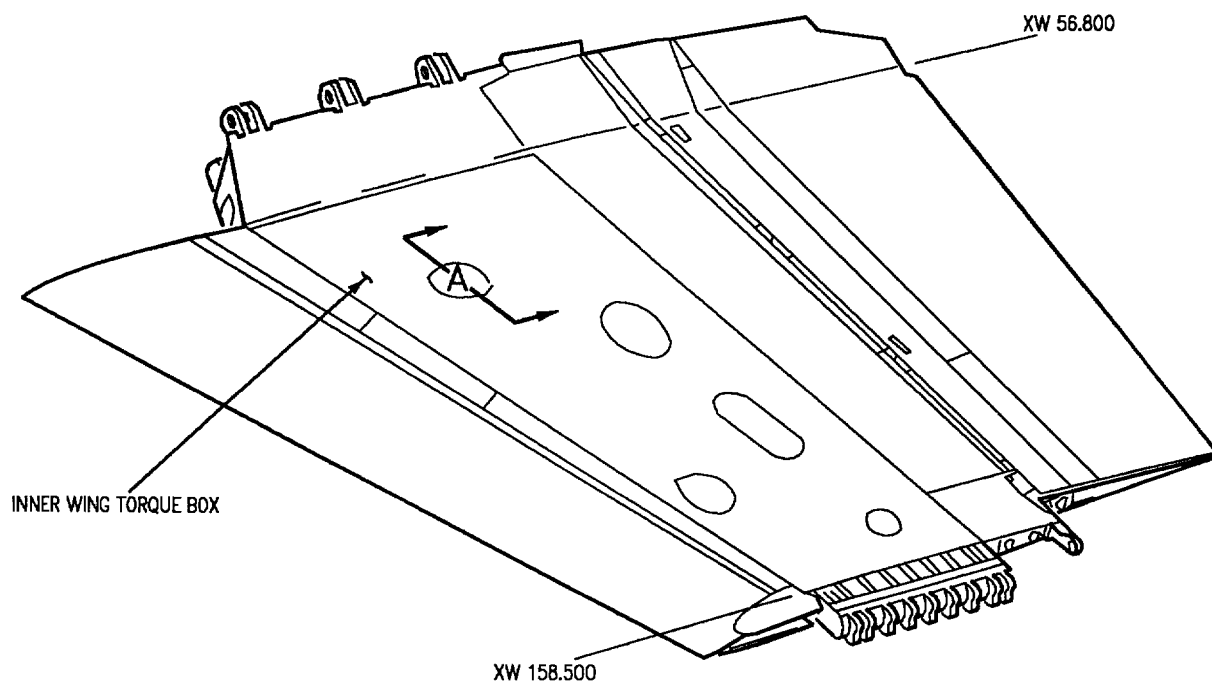


Figure 3. Negligible Damage, Composite Skins

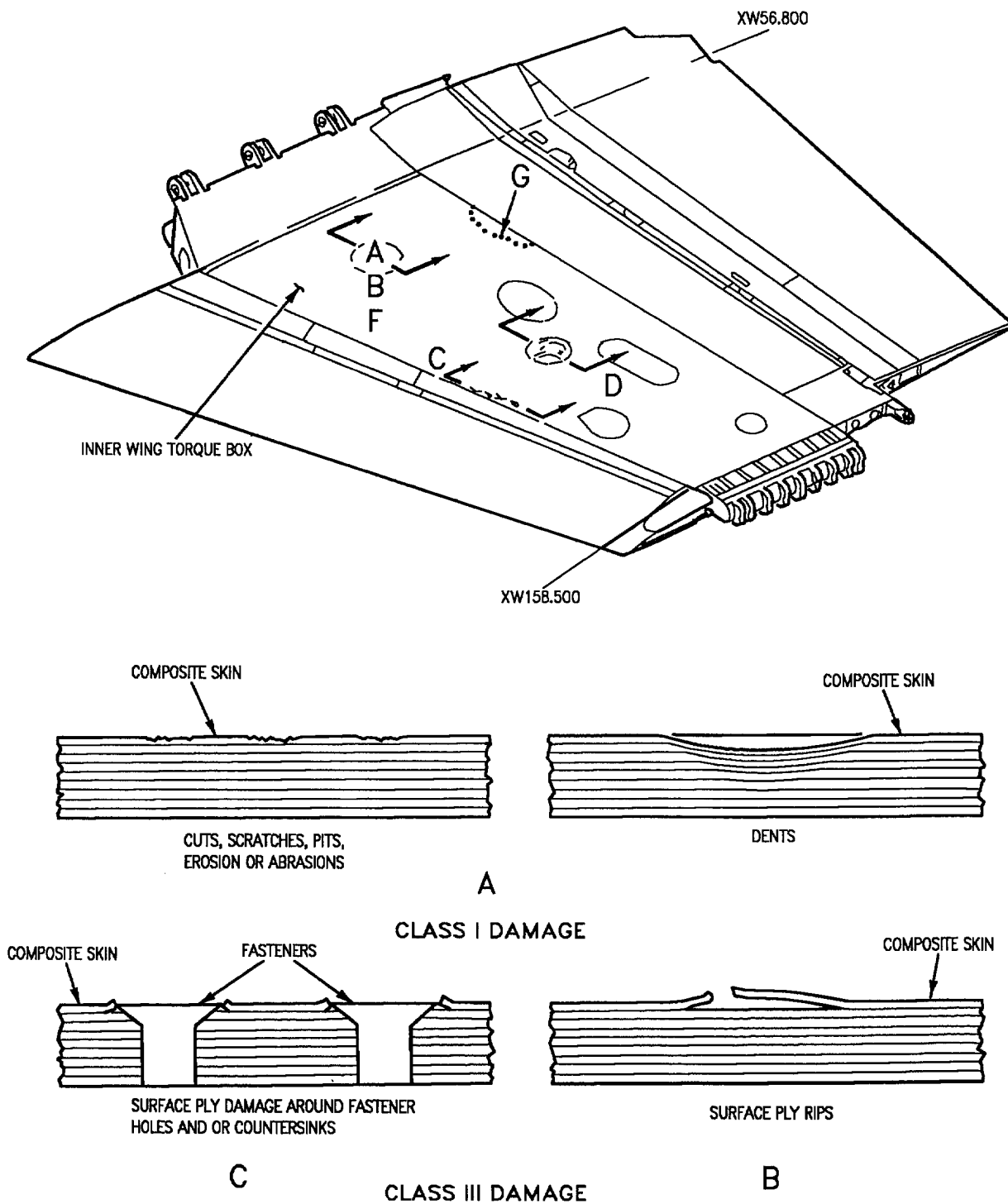


Figure 4. Repairable Damage, Composite Skins (Sheet 1)

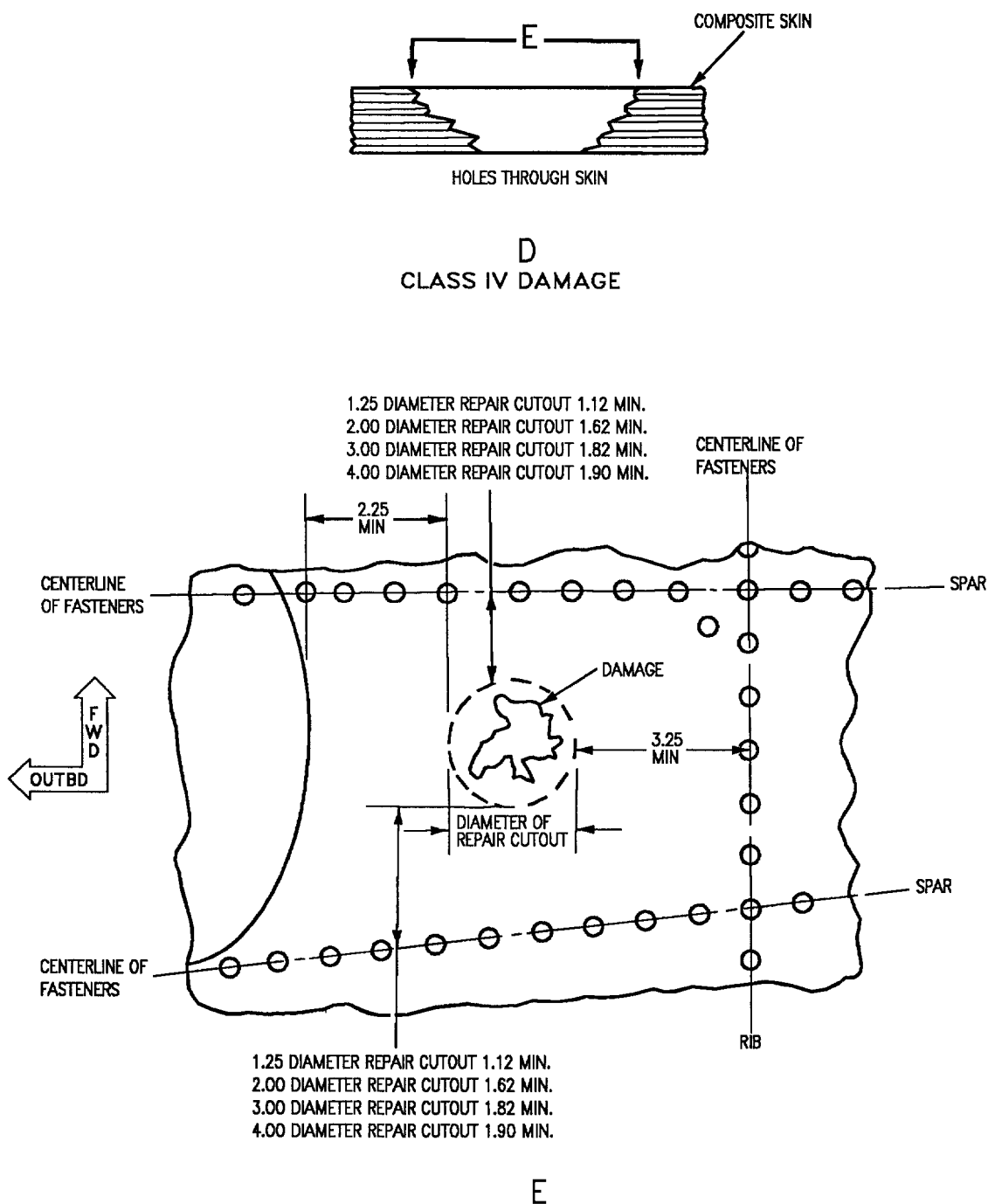
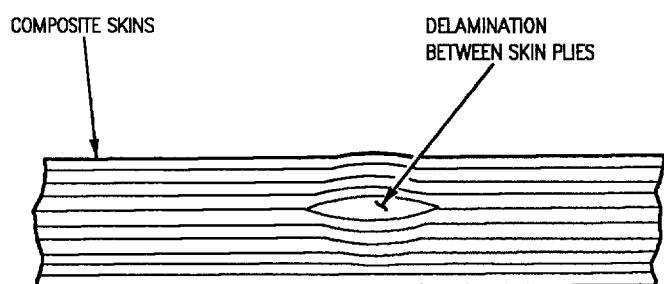
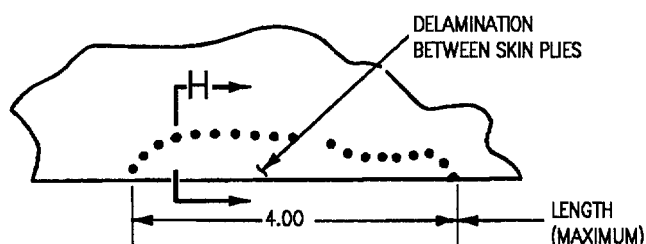


Figure 4. Repairable Damage, Composite Skins (Sheet 2)



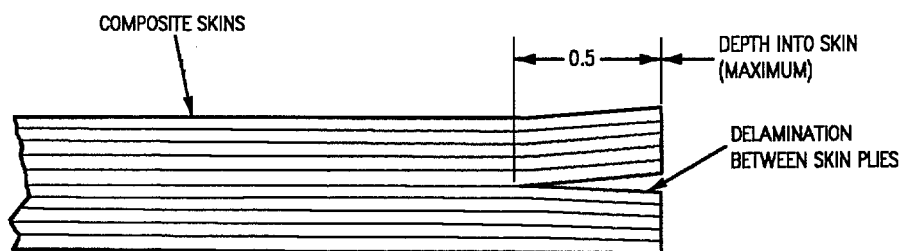
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OPEN TO EDGE

G



OPEN TO EDGE

H

CLASS V DAMAGE

Figure 4. Repairable Damage, Composite Skins (Sheet 3)

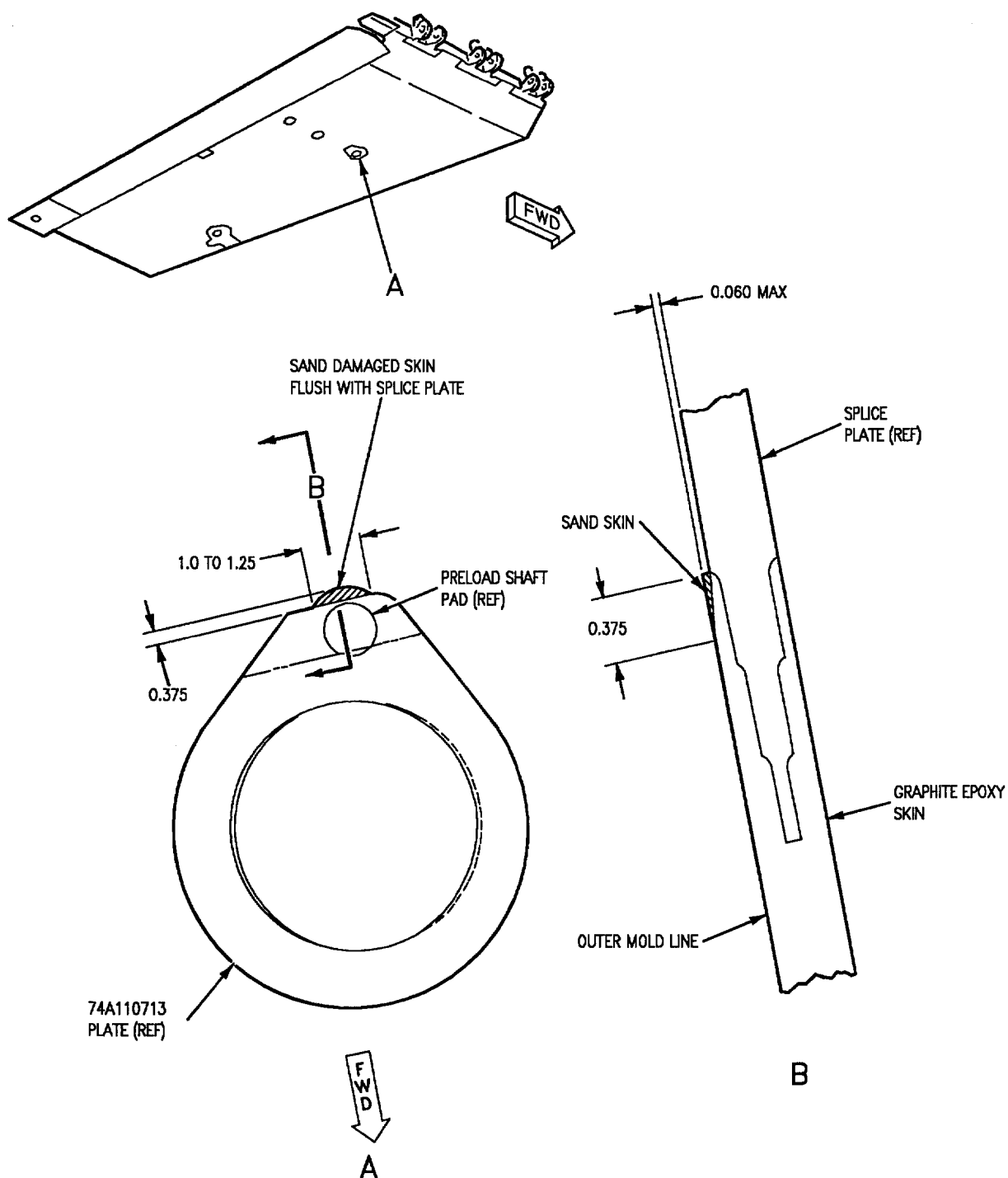


Figure 5. Repair of Inner Wing Skin

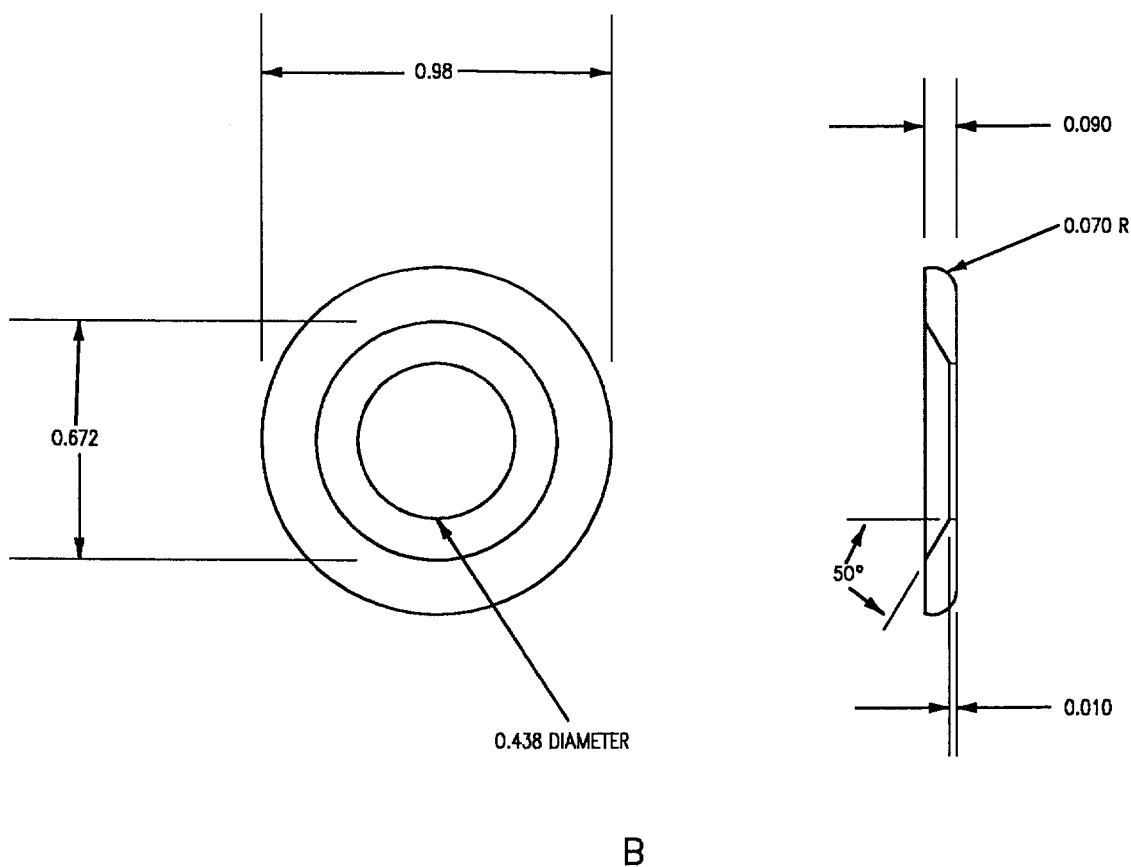
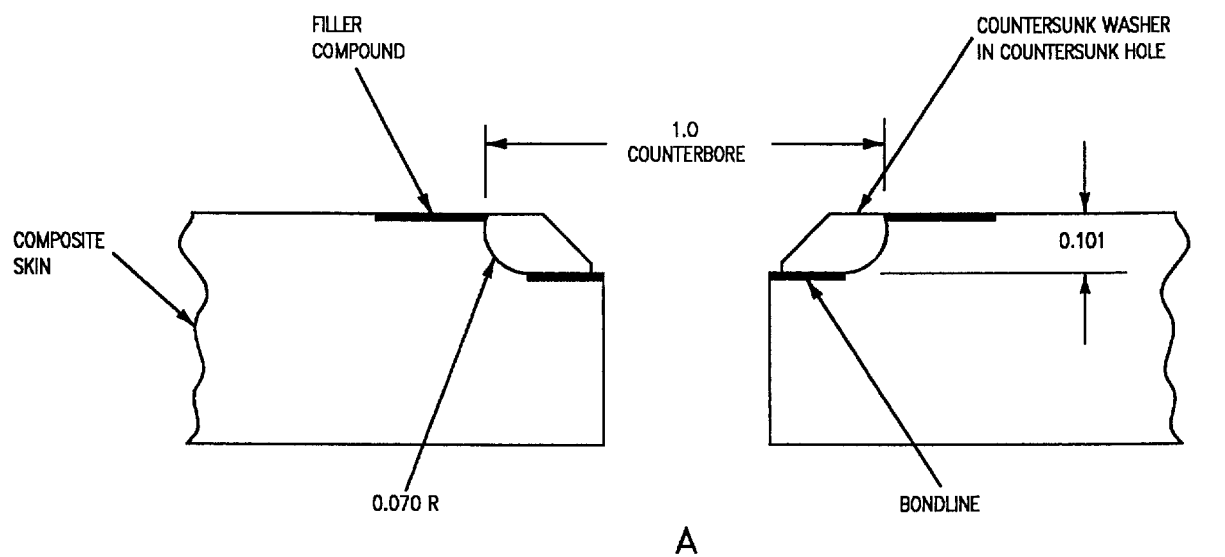
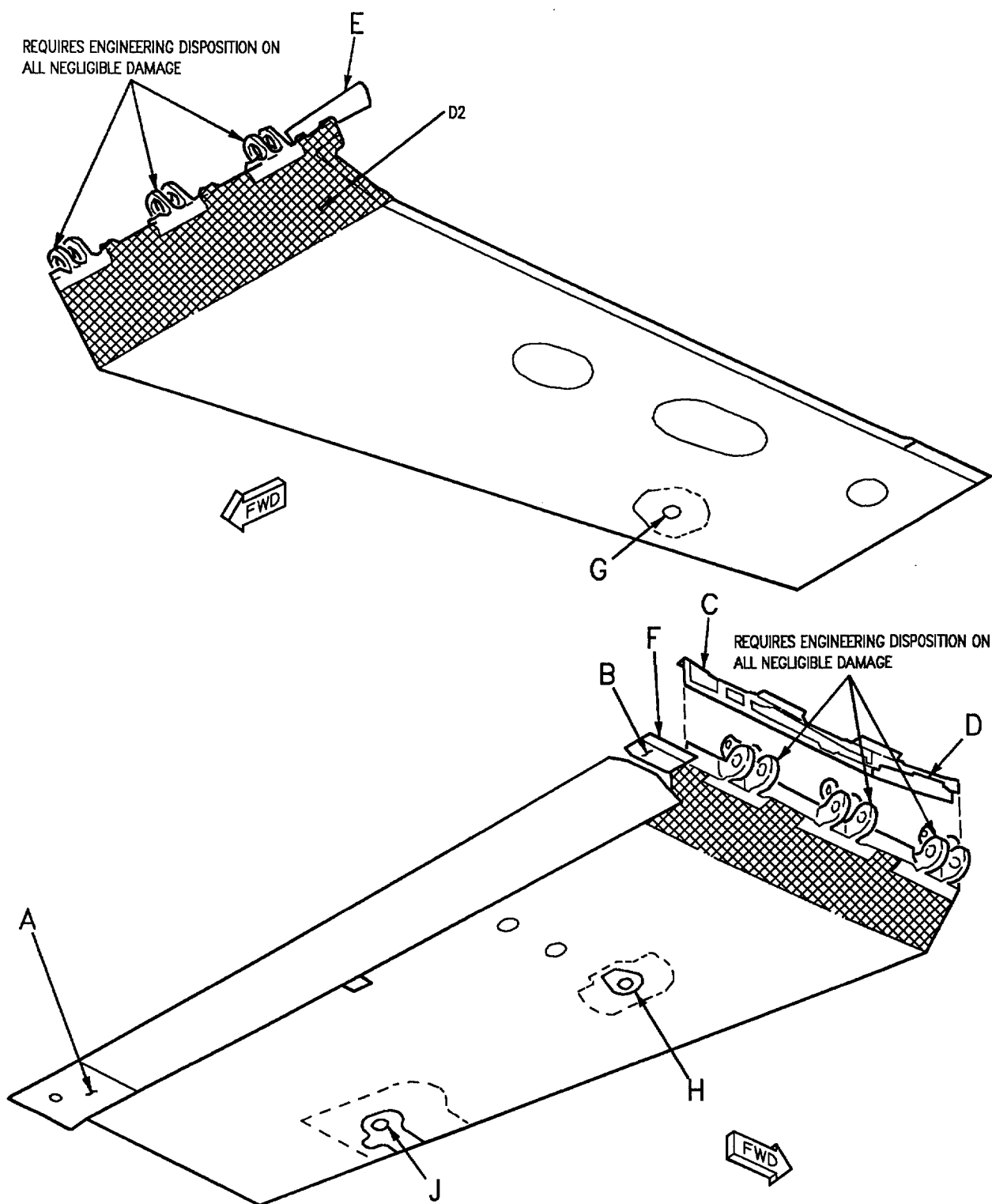


Figure 6. Composite Skin-Fastener Hole Repair



00300701

Figure 7. Repair Zones, Metal Skins and Structure (Sheet 1)

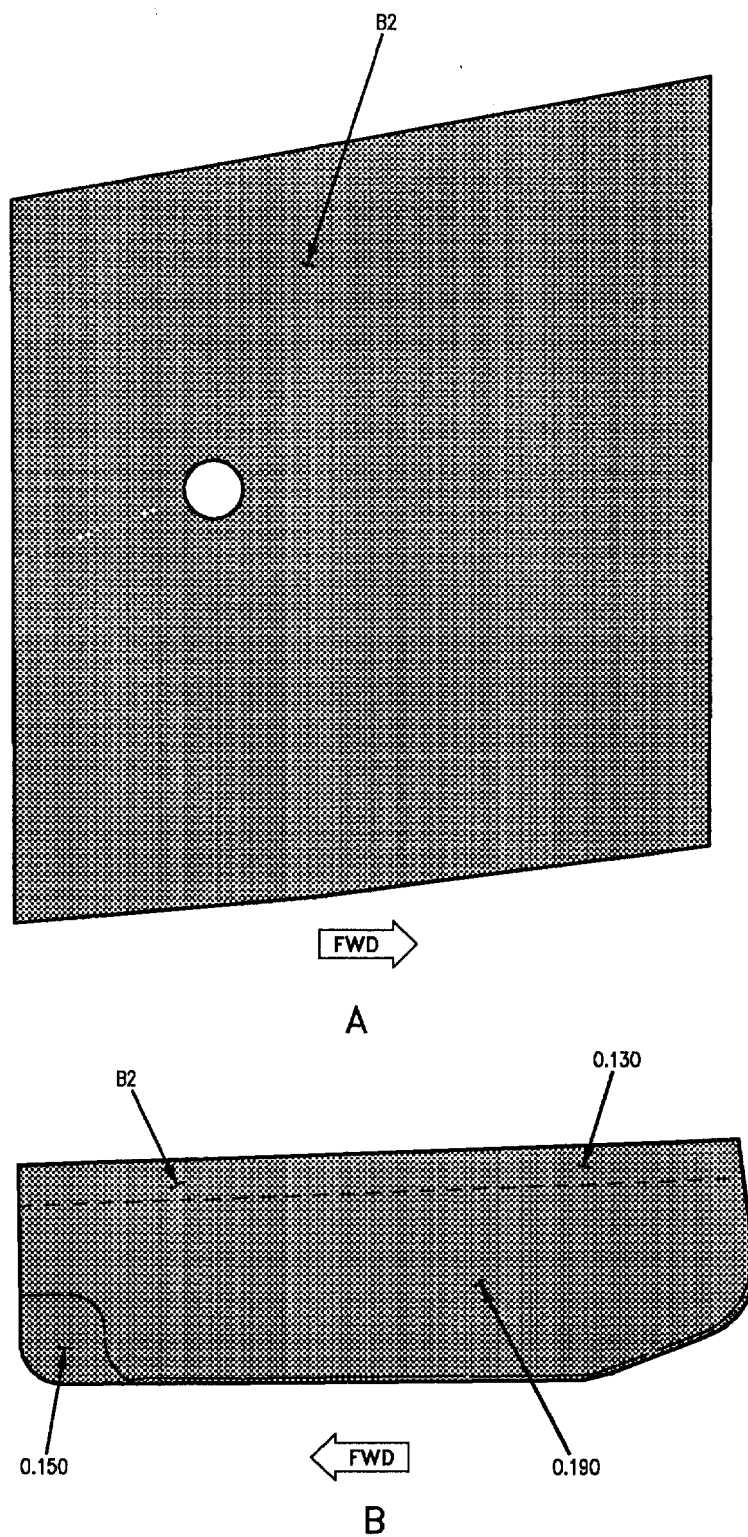
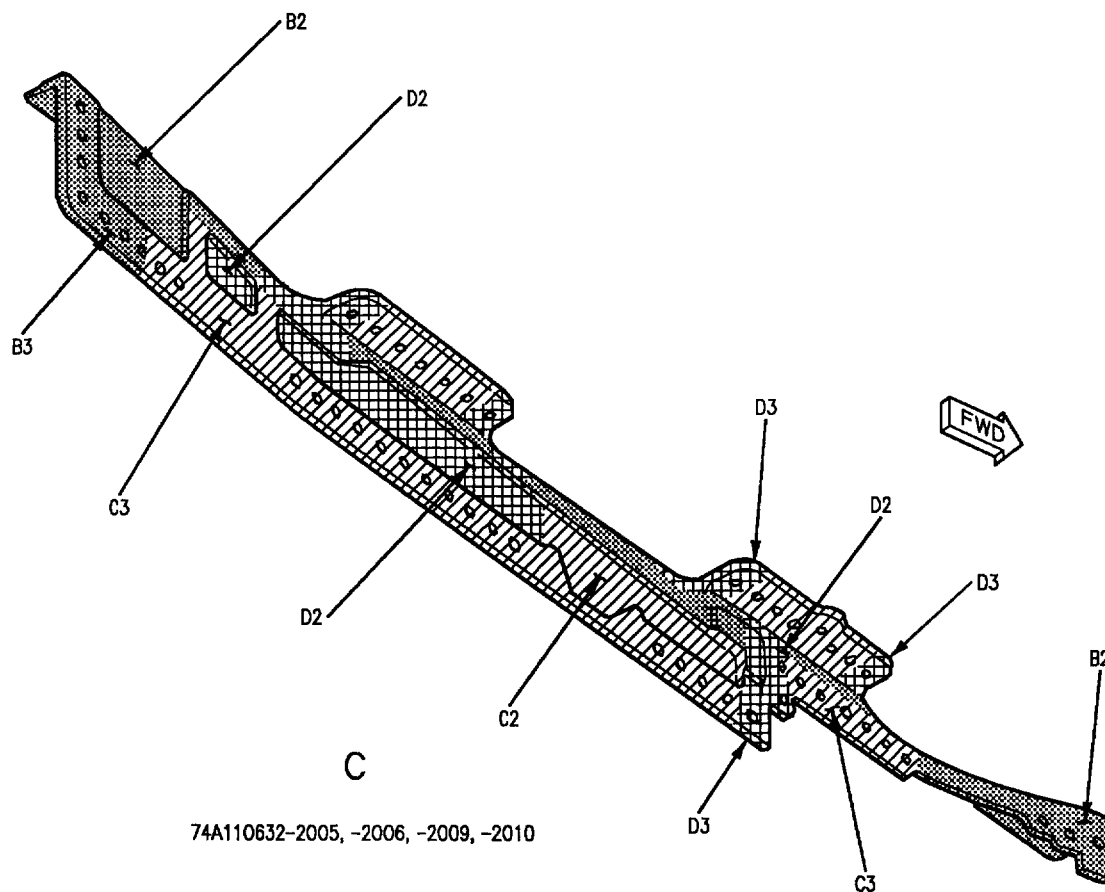
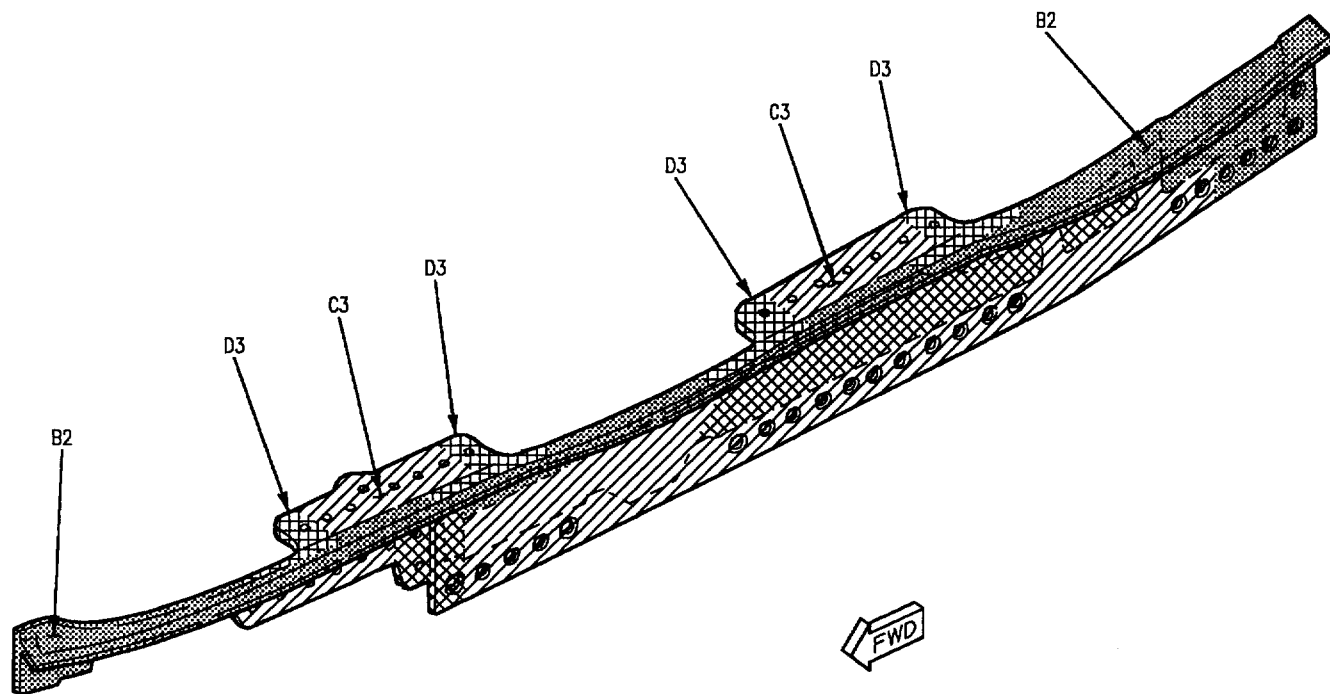


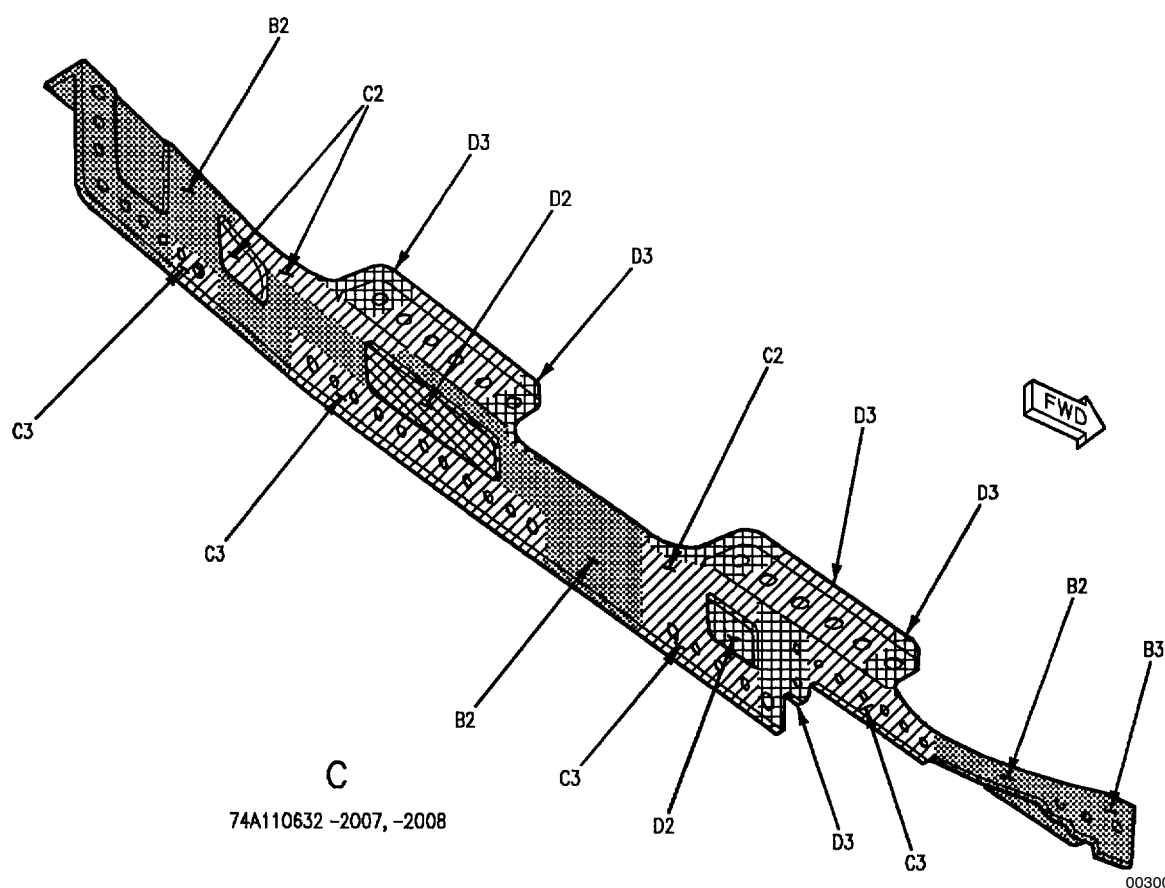
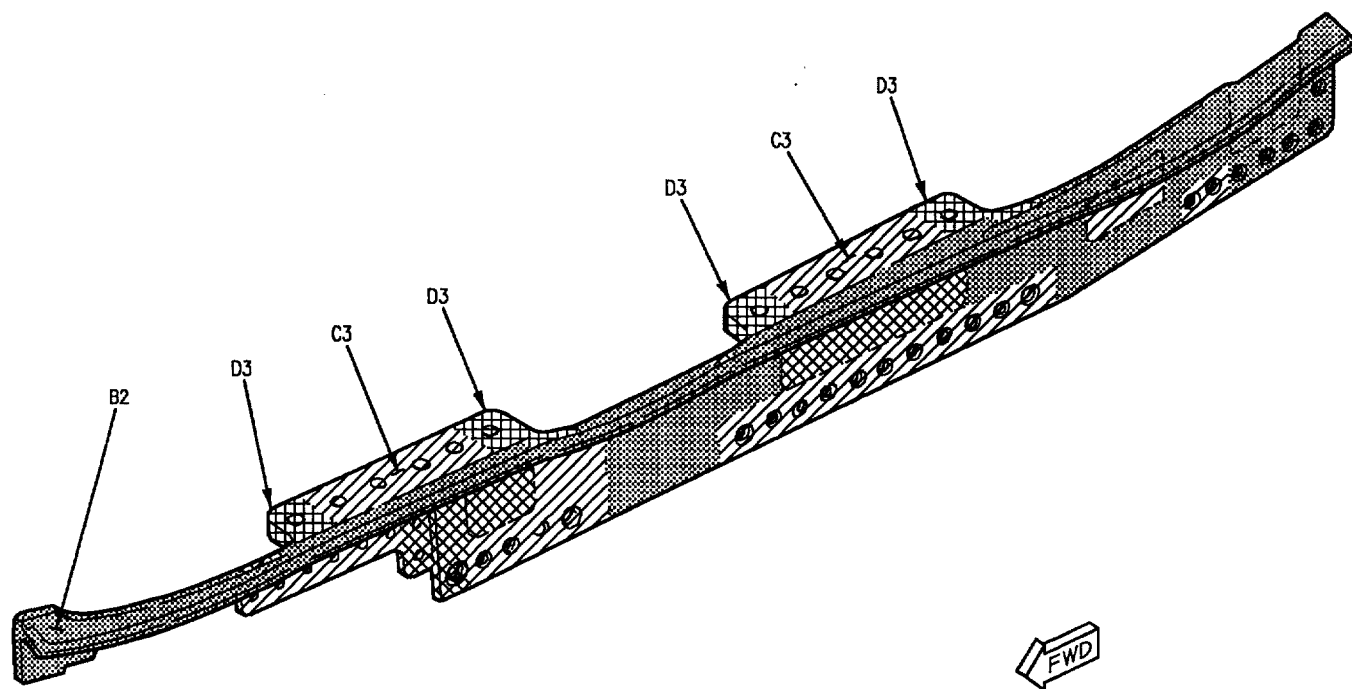
Figure 7. Repair Zones, Metal Skins and Structure (Sheet 2)



74A110632-2005, -2006, -2009, -2010

00300703

Figure 7. Repair Zones, Metal Skins and Structure (Sheet 3)



74A110632 -2007, -2008

00300704

Figure 7. Repair Zones, Metal Skins and Structure (Sheet 4)

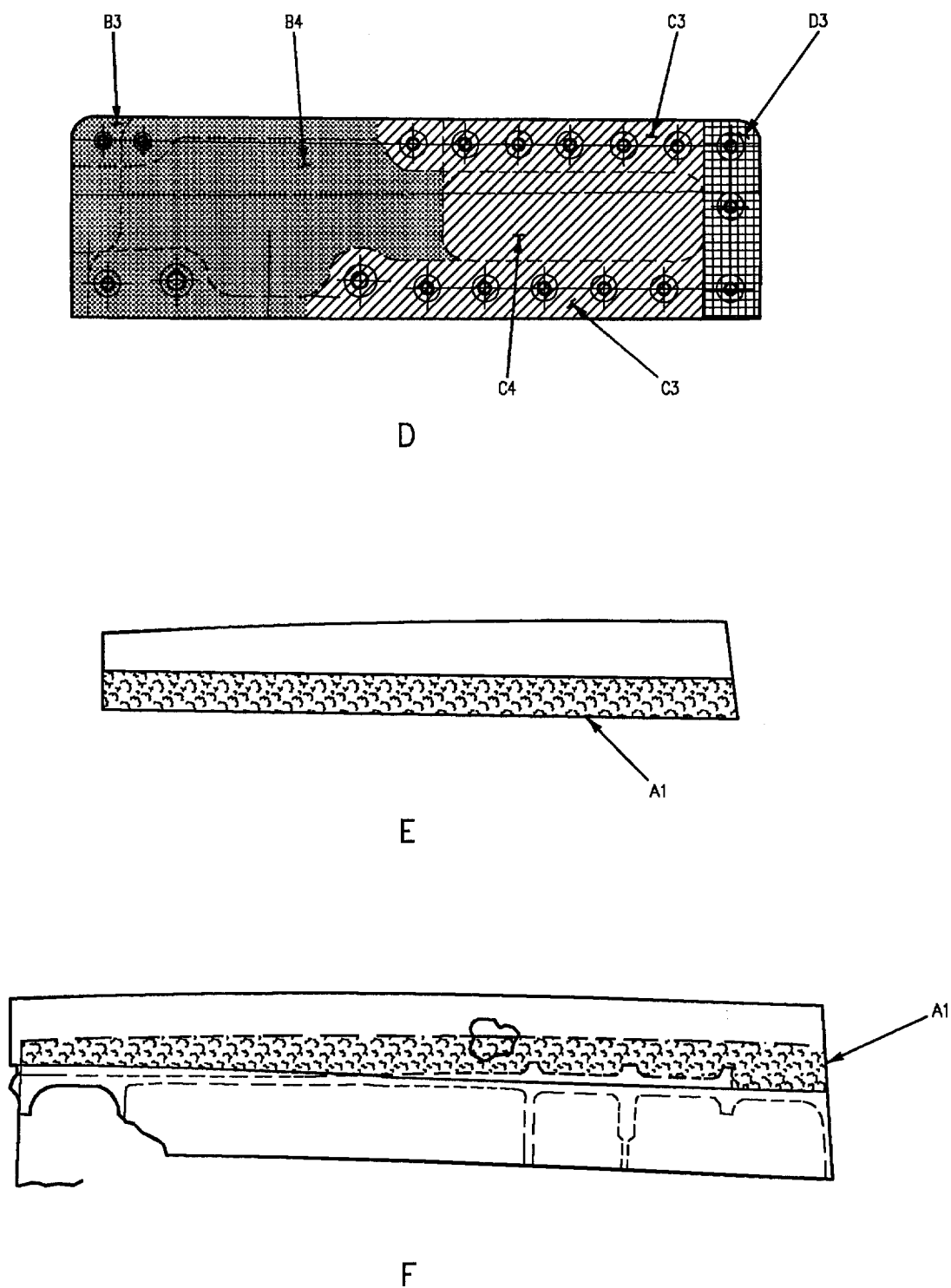
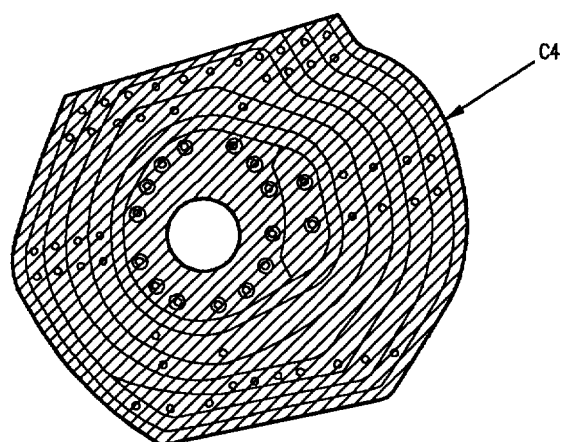
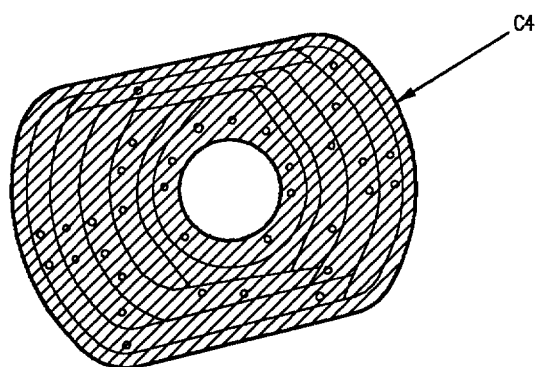


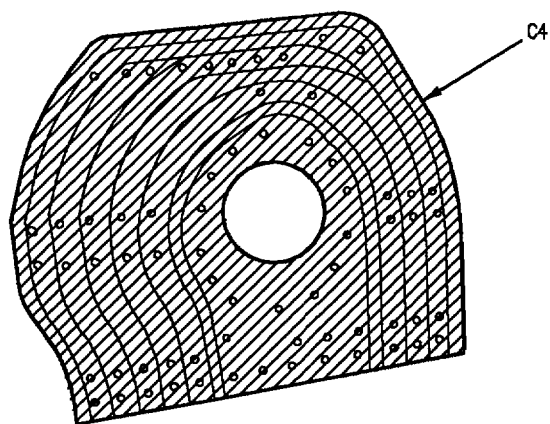
Figure 7. Repair Zones, Metal Skins and Structure (Sheet 5)



G



H



J

Figure 7. Repair Zones, Metal Skins and Structure (Sheet 6)

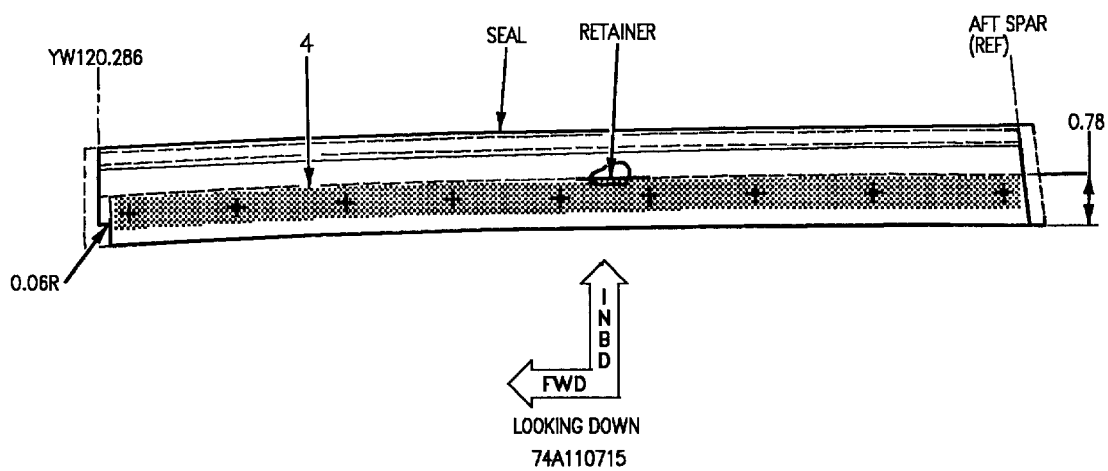
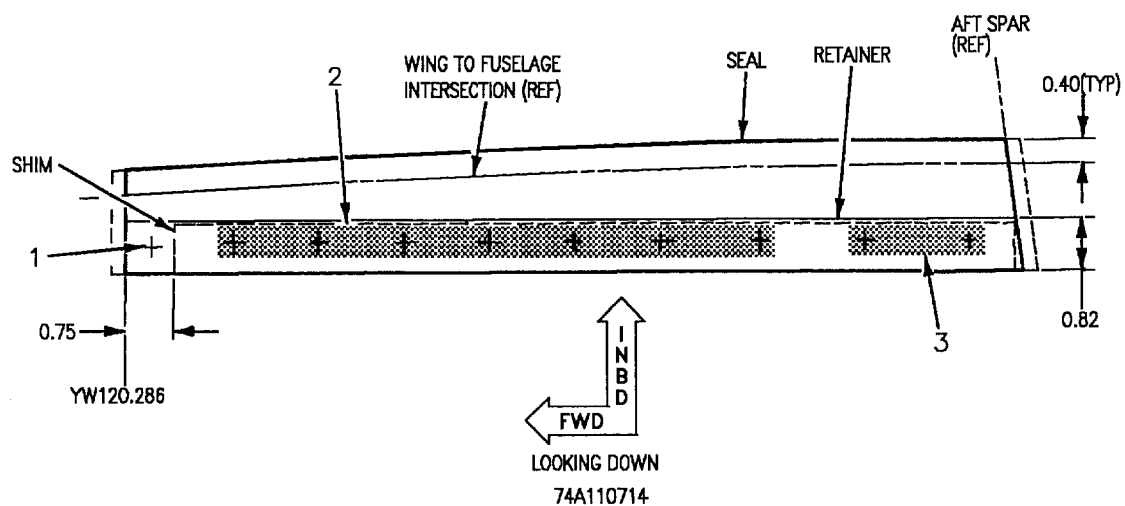


Figure 8. Seals, 74A110714 and 74A110715 Replacement (Sheet 1)

IDX NO.	EFT		Nomenclature	Part Number
1		<div>1</div> <div>2</div>	Rivet	RV1241-4-10
2		<div>1</div> <div>2</div>	Rivet	NAS1399D4A6
3		<div>1</div> <div>2</div>	Rivet	RV1241-4-8
4		<div>1</div> <div>2</div>	Rivet	NAS1399D4A4
<p style="text-align: center;">LEGEND</p> <p> <div>1</div> Hole diameter is $0.125 + 0.003 - 0.001$. </p> <p> <div>2</div> Overseal fastener heads with sealing compound after installation. </p>				

Figure 8. Seals, 74A110714 and 74A110715 Replacement (Sheet 2)

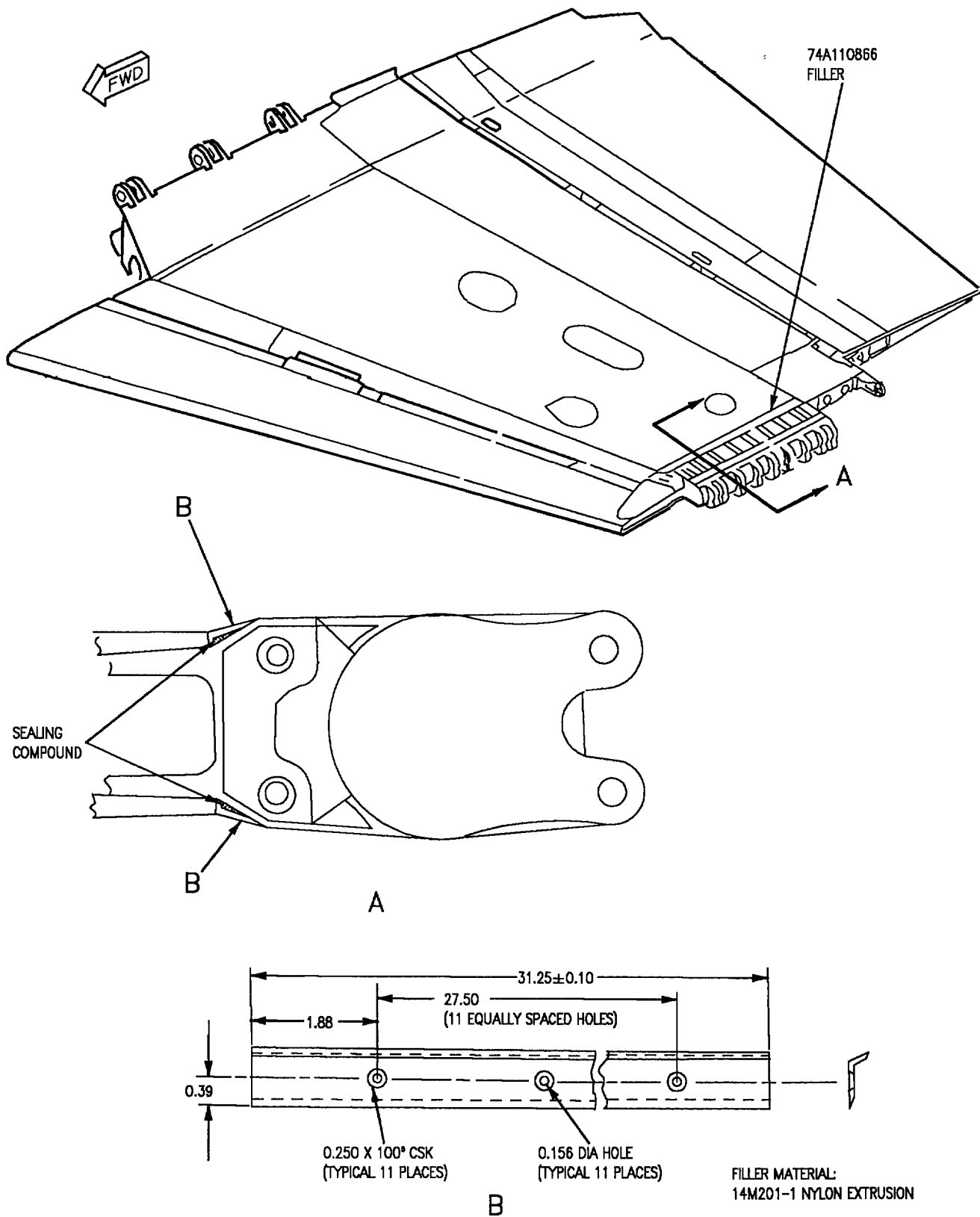


Figure 9. Filler (74A110866) Replacement

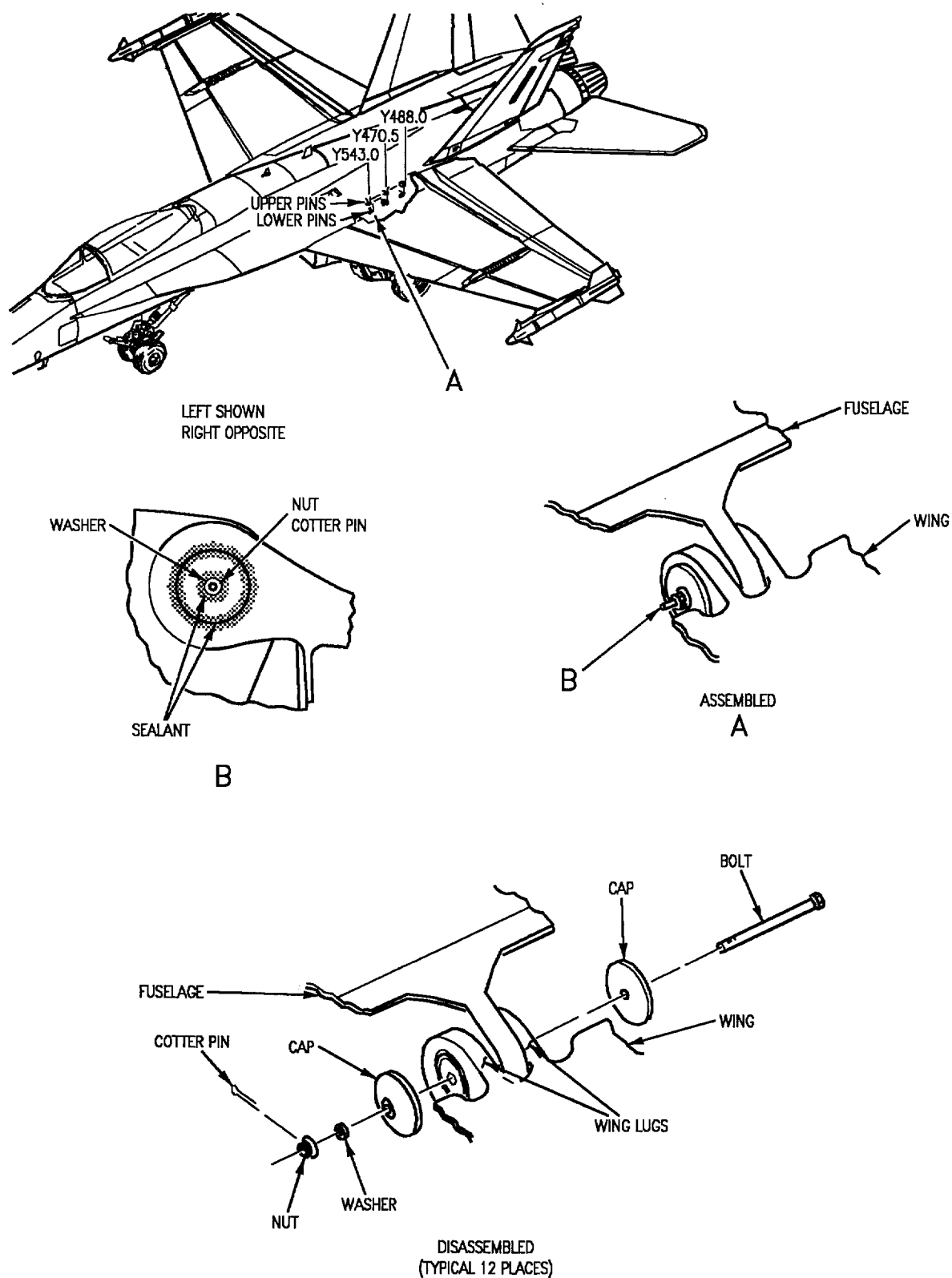


Figure 10. Resealing and Retorquing of Wing Attach Pins

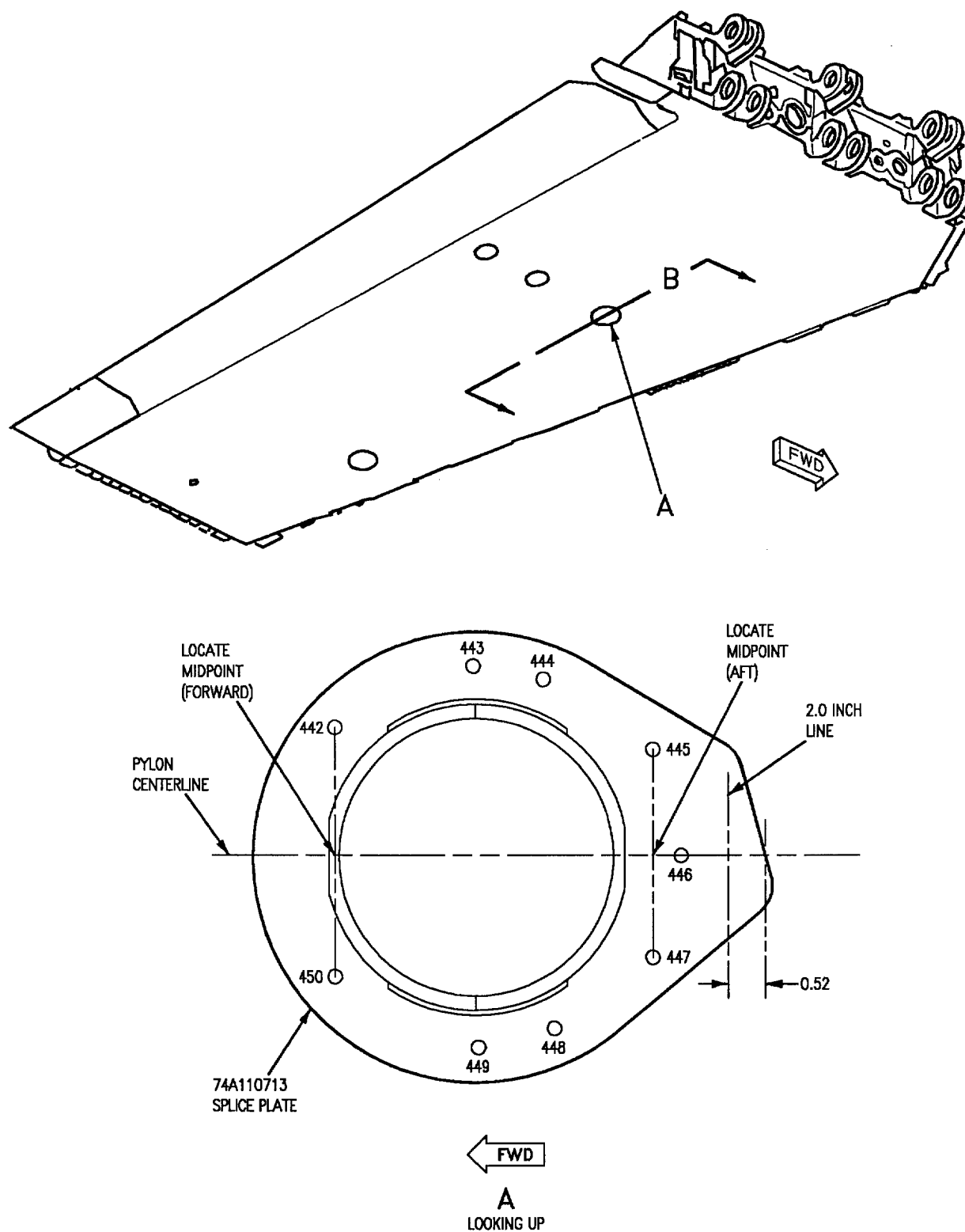
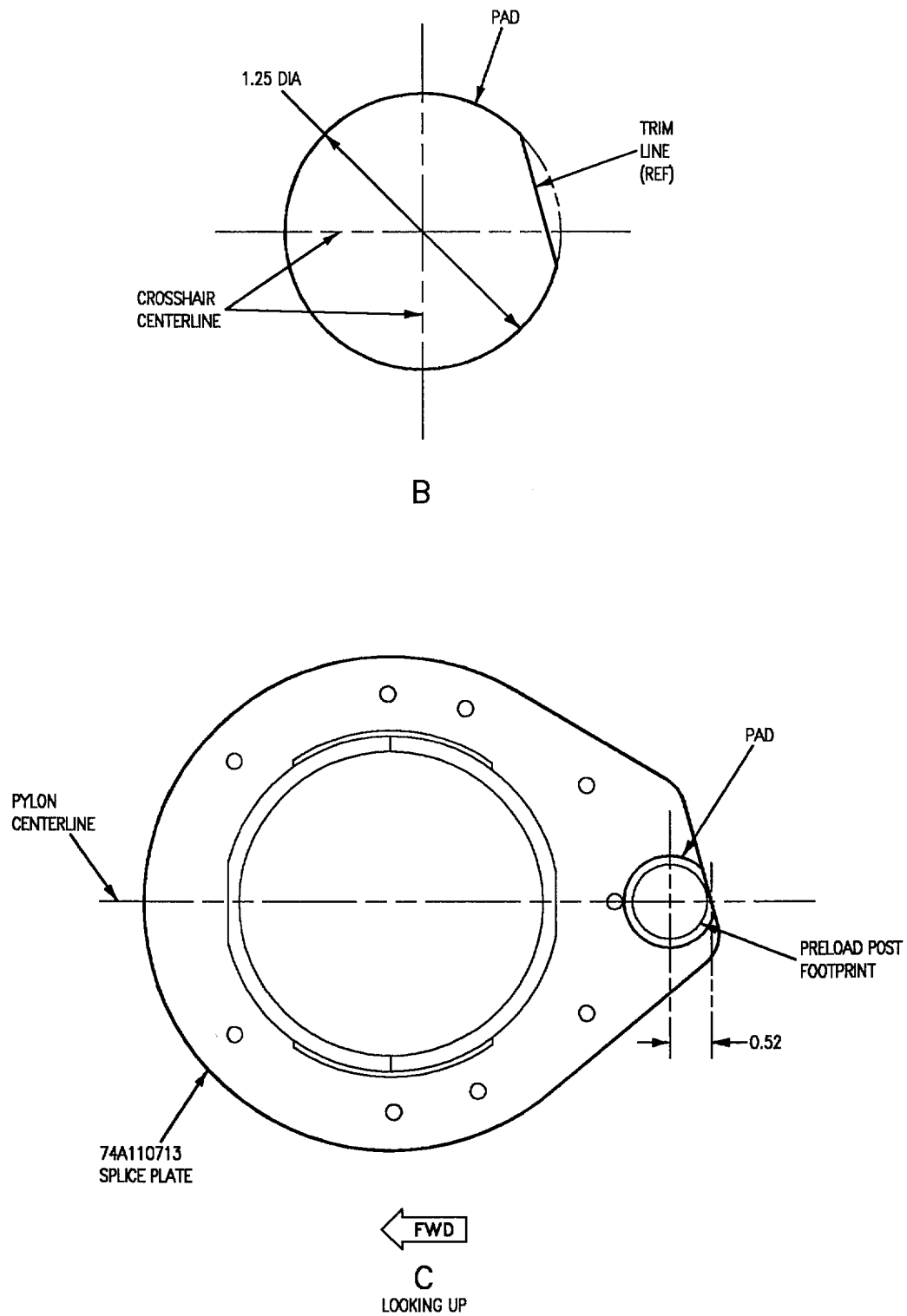


Figure 11. Inboard Pylon Preload Post Abrasion Repair (Sheet 1)



03001102

Figure 11. Inboard Pylon Preload Post Abrasion Repair (Sheet 2)

ORGANIZATIONAL MAINTENANCE
STRUCTURE REPAIR
UPPER INNER WING SKIN FASTENERS

Reference Material

Structure Repair, Wing	A1-F18AC-SRM-210
Inner Wing Hole Numbers	WP003 03
Inner Wing External Metal Doors, Upper	WP005 01
Inner Wing External Doors 76, 77, 106, 191, 192, and 193	WP005 02
Wing Fuel Tank Fillet and Packing Sealing Procedures	WP018 00
Electrical System	A1-F18AC-420-300
Utility Battery and Charger Unit or Utility Battery	WP019 00
Emergency Battery and Charger Unit or Emergency Battery	WP020 00
Plane Captain Manual	A1-F18AC-PCM-000
Structure Repair, General Information	A1-F18AC-SRM-200
Gang Channel and Plate Nut Identification and Repair	WP004 05
Fasteners	WP004 06
Oversize Fasteners	WP004 07
Substitution Fasteners	WP004 09
Structural Hardware	NAVAIR 01-1A-8

Alphabetical Index

Subject	Page No.
Description	2
Repairs	2
Replacement	3
Injection Plug Replacement	4
Installation	4
Removal	4
Safety Precautions	2

Record of Applicable Technical Directives

Type/ Number	Date	Title and ECP No.	Date Incorp.	Remarks
F/A-18 IAFC 140	-	Wing Fatigue Repairs (ECP MDA-F/A-18-00353)	1 Apr 92	-

1. DESCRIPTION.

2. This work package contains instructions for the removal and installation of the inner wing skin fasteners and attaching hardware. When removing and replacing fasteners and attaching hardware, the determination shall be made whether to defuel the aircraft to safely do the removal and installation. Observe all safety precautions. Refer to Safety Precautions, this WP.

3. SAFETY PRECAUTIONS.

WARNING

Physical damage can be caused by inhaling of or continued exposure to vapors from toxic chemicals used in sealing procedures. Failure to do steps below before or during fuel tank maintenance may result in death or injury to personnel, or damage to aircraft.

- a. Make sure external electrical and hydraulic power are removed from aircraft, disconnect and tie back leads to utility and emergency batteries (A1-F18AC-420-300, WP019 00 and WP020 00), and a NO POWER placard is over power receptacle.
- b. Make sure aircraft is grounded to approved static grounding point before starting any maintenance (A1-F18AC-PCM-000).
- c. Make sure all ground support equipment is grounded to approved static grounding points before starting any maintenance.
- d. Make sure radar is not operating in the vicinity of maintenance.
- e. Make sure enough fire fighting equipment is available.
- f. Do not allow smoking within 100 feet of maintenance operation.
- g. Do not allow operation of aircraft engines and/or spark/heat producing equipment within 50 feet of maintenance operation.

h. Do not allow any liquid oxygen operations within 100 feet of maintenance operation.

i. Only explosion-proof droplights and flashlights are to be used during maintenance operation.

j. Any power tools required during maintenance must be air driven.

k. In areas of heavy chemical vapors concentration, wear protective clothing and face mask respirators.

l. Presence of a safety observer is required during maintenance operations.

m. Keep access openings covered when not working in fuel tank.

4. REPAIRS.

5. When plate nut and/or gang channel is damaged, a Jo-Bolt or blind rivet may be installed for a temporary repair. Jo-Bolts or blind rivets are to be replaced with replacement plate nut and/or gang channel when upper skin is removed. For hole number location (WP003 03). For installation of Jo-Bolts or blind rivets (NAV-AIR 01-1A-8) and table 1. For allowable blind rivet location in high stress areas, see figure 2.

NOTE

The numbers referred to in table 1 are hole numbers and are found in Figure 2 or in WP003 03. The numbers on Figure 1 are index numbers relating to fasteners in chart.

Table 1. Repair Fasteners 






Hole Numbers	Fastener 1 
125 to 138	NAS1752-4L Jo-Bolt 
149 to 163	NAS1752-4L Jo-Bolt 
181 to 194	NAS1752-4L Jo-Bolt 
205 to 219	NAS1752-4L Jo-Bolt 

Table 1. Repair Fasteners (Continued) 4

Hole Numbers	Fastener 1 1
5 240 to 241	MS90353-12()D Blind Rivet
6 240 to 241	MS90353-14()D Blind Rivet
242 to 245	MS90353-14()D Blind Rivet
247 to 250	MS90353-14()D Blind Rivet
305 to 332	NAS1752-4L Jo-Bolt 2
338 to 364	NAS1672-4L Jo-Bolt
374	NAS1752-4L Jo-Bolt 2
376 to 422	MAS1672-4L Jo-Bolt
456 to 484	NAS1752-4L Jo-Bolt 2
487 to 492	NAS1672-4L Jo-Bolt
497 to 500	NAS1672-4L Jo-Bolt
508 to 512	NAS1672-4L Jo-Bolt
516 to 523	NAS1672-4L Jo-Bolt
526 to 563	NAS1752-4L Jo-Bolt 2
581 to 623	NAS1672-4L Jo-Bolt
687 to 690	NAS1672-4L Jo-Bolt
695 to 701	NAS1672-4L Jo-Bolt
704 to 722	NAS1752-4L Jo-Bolt 2
739	NAS1652-5L Jo-Bolt 3
742 to 753	NAS1672-4L Jo-Bolt
756 to 797	NAS1672-4L Jo-Bolt
928 to 931	MS90353-14()D Blind Rivet
933 to 937	MS90353-14()D Blind Rivet
926 to 956	MS90353-14()D Blind Rivet

Table 1. Repair Fasteners (Continued) 4

Hole Numbers	Fastener 1 1
957 to 958	MS90353-12()D Blind Rivet
959 to 962	MS90353-14()D Blind Rivet
974 to 978	MS90353-14()D Blind Rivet
982 to 983	NAS1752-4L Jo-Bolt 2
987	NAS1752-4L Jo-Bolt 2
1077	NAS1672-4L Jo-Bolt
5 1383 to 1384	MS90353-12()D Blind Rivet
6 1383 to 1384	MS90353-14()D Blind Rivet
LEGEND 1 Length to be determined on installation. 2 0.0156 inch oversize. 3 Increased diameter. 4 Replacement fasteners for holes not listed require a depot engineering disposition. 5 161978 and Up. 6 161715 thru 161977.	

6. **REPLACEMENT.** See figure 1.

7. Fasteners and attaching hardware can be removed per Removal, this WP and installed per Installation, this WP.

Support Equipment Required

None

Materials Required

None

8. REMOVAL.



Failure to defuel aircraft when required could cause a fuel leak.

a. If it has been determined that removal of a fastener or attaching hardware will cause fuel leak, defuel aircraft (A1-F18AC-PCM-000).

NOTE

The figure identifies the types of fasteners and attaching hardware used.

b. Remove fasteners and attaching hardware.

9. INSTALLATION.

a. For replacement of preformed O-ring packing, resealing procedure, packing (WP018 00).

NOTE

To reinstall, see figure for types of fasteners and attaching hardware.

b. For installation of fasteners and attaching hardware (A1-F18AC-SRM-200, WP004 05, WP004 06, WP004 07, and WP004 09).

c. If aircraft was defueled to replace fasteners and attaching hardware, refuel aircraft (A1-F18AC-PCM-000) and inspect for leaks around fasteners.

10. **INJECTION PLUG REPLACEMENT.** The procedure below is for bonding of loose or damaged injection plugs into wing skin.

Support Equipment Required

None

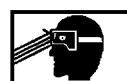
Materials Required

Specification or Part Number	Nomenclature
H-B-643, Type 2, Class 1	Brush, Acid Swab

Materials Required (Continued)

Specification or Part Number	Nomenclature
EC-2216 B/A	Adhesive
UU-C-806, Type 1, Style A, Class 1	Cup, Paper, Wax-Free
TT-I-735	Isopropyl Alcohol
CCC-C-440, Type 1, Class 1	Cheesecloth

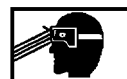
a. Remove loose or damaged injection plug from skin.



Isopropyl Alcohol

9

b. Clean bonding surface of injection plug hole in skin using isopropyl alcohol and brush.



Adhesive

13

c. Prepare Adhesive:

(1) Mix thoroughly 100 parts by weight, or 100 parts by volume, base B, with 140 parts by weight, or 150 parts by volume, hardener A. A thorough mixture will change color from off-white to dark gray.

(2) Work life is 1-1/2 hours.

d. Apply thin film of mixture to hole and injection plug. Assemble immediately. Apply pressure to be sure of complete contact.

e. Wipe squeeze-out flush with mold line using clean, dry cheesecloth.

f. Cure adhesive three to seven days at room temperature or 30 to 60 minutes at 200°F ± 10°F.

CAUTION
THE NUMBERS SHOWN IN THIS
FIGURE ARE INDEX NUMBERS.
SEE WPO03 03 FOR HOLE NUMBERS.
WRONG HOLE SIZE COULD BE DETERMINED.

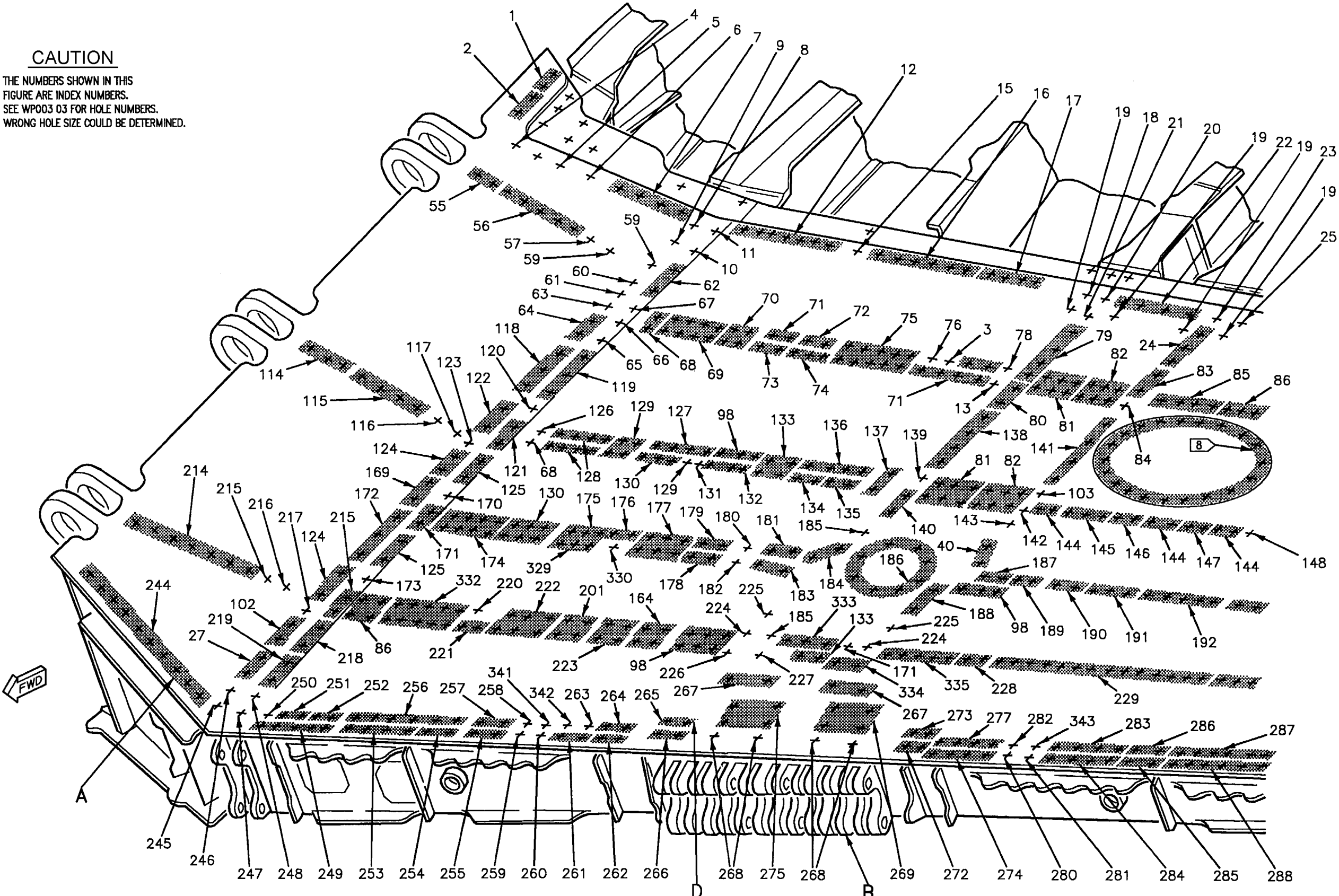
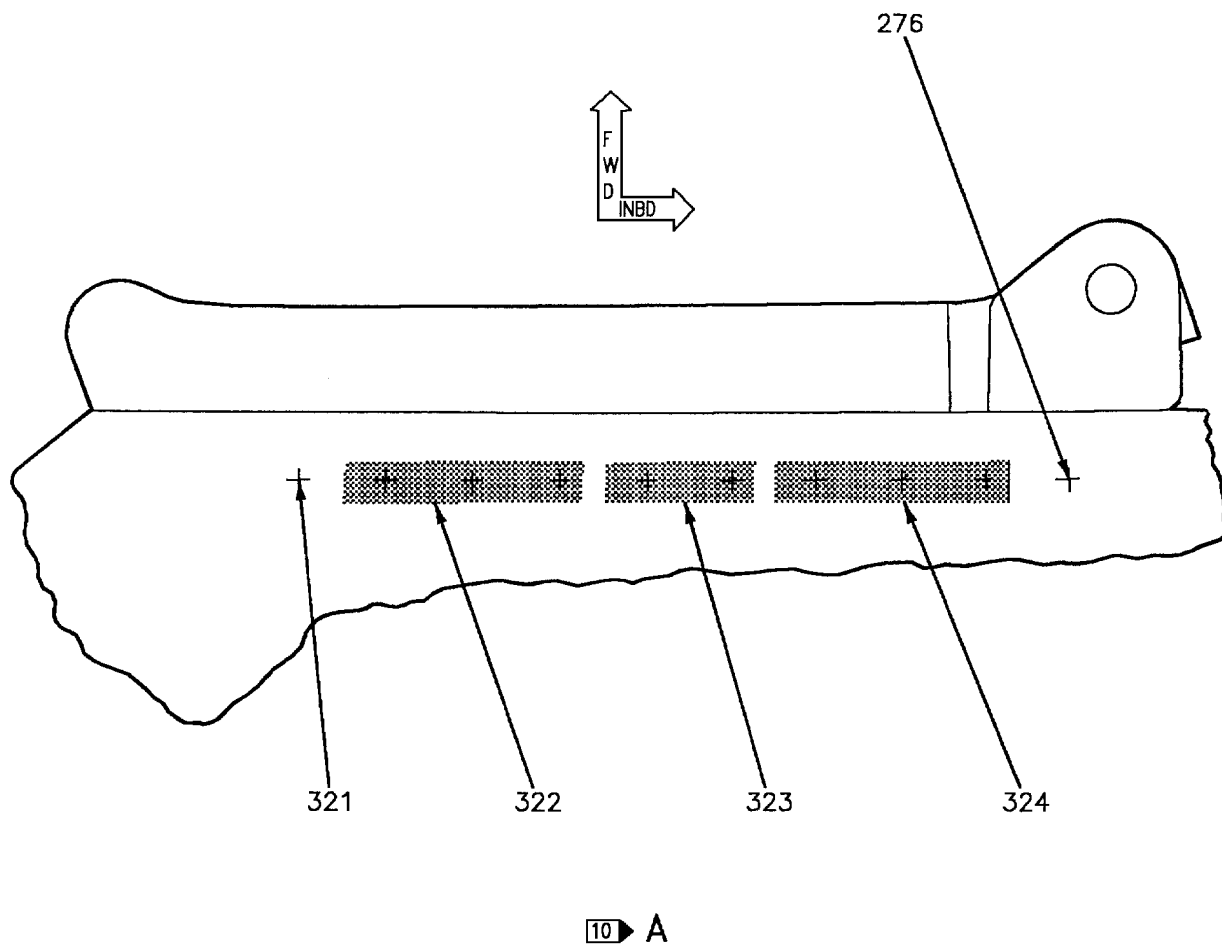


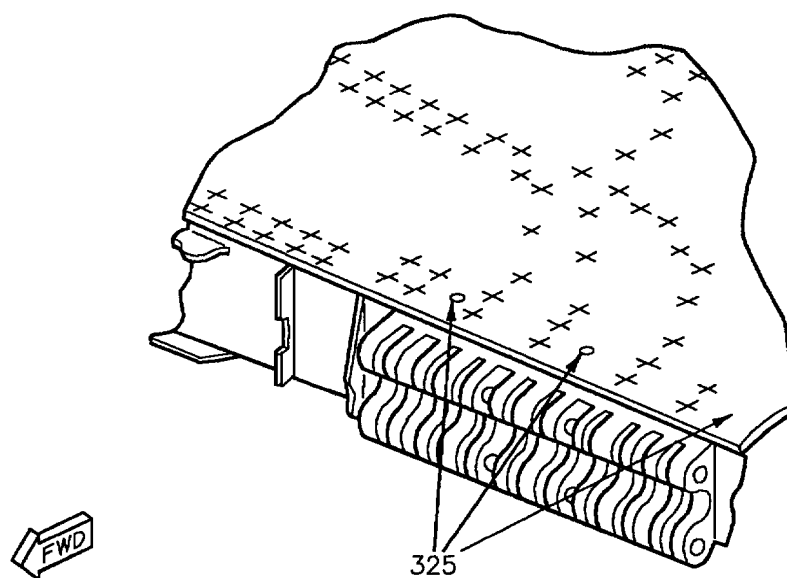
Figure 1. Upper Skin Fasteners (Sheet 1)



CAUTION

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FIGURE ARE INDEX NUMBERS.
SEE WP003 03 FOR HOLE NUMBERS.
WRONG HOLE SIZE COULD BE DETERMINED.

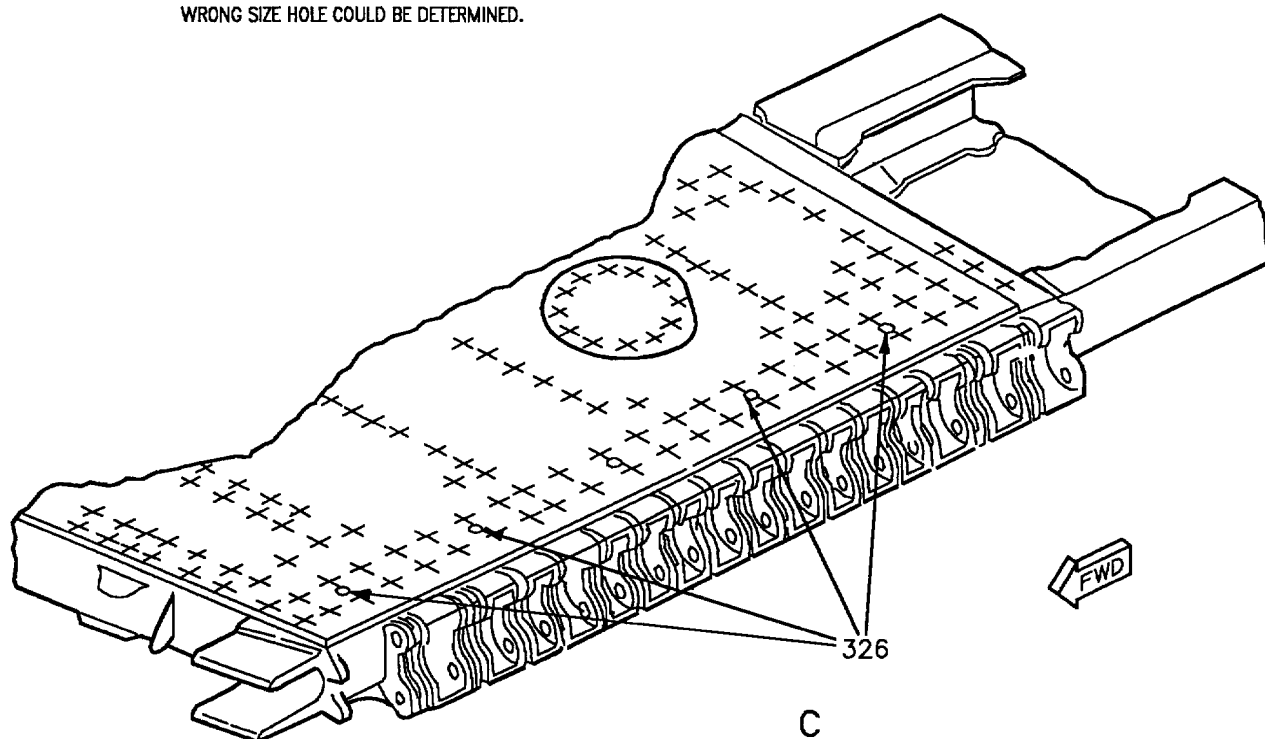
Figure 1. Upper Skin Fasteners (Sheet 3)



B

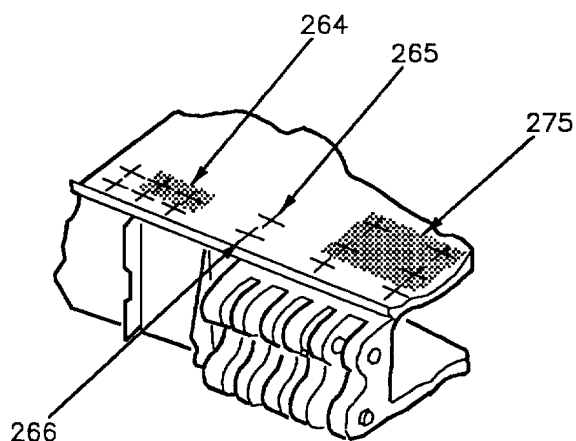
CAUTION

THE NUMBERS SHOWN IN THIS
FIGURE ARE INDEX NUMBERS.
SEE WP003 03 FOR HOLE NUMBERS.
WRONG SIZE HOLE COULD BE DETERMINED.

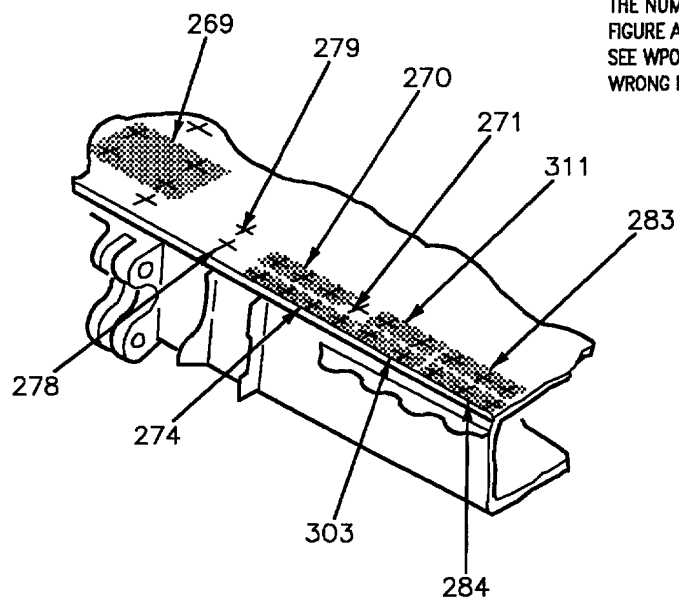


C

Figure 1. Upper Skin Fasteners (Sheet 4)



12 D



12 E

CAUTION

THE NUMBERS SHOWN IN THIS
FIGURE ARE INDEX NUMBERS.
SEE WP003 03 FOR HOLE NUMBERS.
WRONG HOLE SIZE COULD BE DETERMINED.

Figure 1. Upper Skin Fasteners (Sheet 5)


















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2	 		Screw Radius Block Nut Pin Collar	HT4025L5-9 NAS1401-5D3 NAS1291C5M HLT53DL-10-9 HLT570-10MC
3			Screw Gang Channel	HLT271A4-12 G51061-4-2-10
4	 		Screw Spacer Gang Channel Screw	NAS665V10HT 74A110866-3687 G18421JL2-5-10 HT402L5-10
5	  		Screw Spacer Washer Gang Channel Screw	NAS665V10HT 74A110866-3687 4M264-2 G18421JL2-5-10 HT4025L5-10
6	  		Screw Spacer Spacer Washer Plate Nut Screw	NAS665V11HT 74A110866-3689 74A110866-3696 4M264-2 F14427-2-5 HT4025L5-11
7	  		Screw Spacer Washer Gang Channel Screw	NAS665V12HT 74A110866-3691 4M264-2 G18421JL2-4-9 HT4025L5-12
8			Screw Spacer Washer Gang Channel	HT4025L5-16 74A110866-3277 4M264-2 G18421JL2-2-15
9			Screw Spacer Washer Gang Channel	HT4020-5-16A 74A110866-3277 4M264-2 G18421JL2-2-15

Figure 1. Upper Skin Fasteners (Sheet 6)








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12			Screw Washer Spacer Gang Channel	NAS664V13HT 4M264-1 74A110866-3693 G18421JL2-7-8
13			Screw Spacer Gang Channel	HT271A4-12 74A110866-2235, -2236 74B110052-2003
14			Screw Plate Nut	HT271A5-15 F50339-5-2
15			Screw Spacer Washer Plate Nut	NAS664V16HT 74A110866-2243, -2244 4M264-1 F49249E4-2
16			Screw Spacer Gang Channel	NAS664V14HT 74A110866-3695 G18421JL2-6-10
17			Screw Spacer Gang Channel	NAS664V15HT 74A110866-3709 G18421JL2-4-9
18	 		Screw Screw Plate Nut	NAS665V17HT NAS665V18HT F14427-2-5
19			Screw Plate Nut	HT271A5-13 F50339-5-2
20			Screw Spacer Gang Channel	NAS665V19HT 74A110866-3697 G18421JL2-2-12
21			Screw Spacer Gang Channel	HT271A5-19 74A110866-3697 G18421JL2-2-12
22			Screw Gang Channel	NAS665V17HT G18421JL2-4-14
23			Screw Spacer Gang Channel	NAS665V19HT 74A110866-3699 G18421JL2-4-12

Figure 1. Upper Skin Fasteners (Sheet 7)










IDX NO.	EFT		Nomenclature	Part Number
24			Screw Spacer Gang Channel	HT271A5-19 74A110866-3699 G18421JL2-4-12
25	 		Screw Screw Plate Nut	NAS665V17HT NAS665V18HT F49249E5-2
26			Screw Spacer Gang Channel	NAS664V15HT 74A110866-3711 G18421JL5-4-10
27	 		Screw Screw Gang Channel	HT271A5-14 HT4020-5-14A G50344-5-2-12
28			Screw Gang Channel	NAS664V15HT G18421JL2-3-9
29			Screw Plate Nut	NAS665V16HT F49249E5-2
30			Screw Gang Channel	NAS665V20HT G18421JL2-2-10
31			Screw Plate Nut	HT271A5-20 F50403-5-1
32			Screw Spacer Plate Nut	NAS665V16HT 74A110866-3209 F49249E5-2
33			Screw Gang Channel	NAS665V18HT G18421JL2-2-12
34			Screw Gang Channel	HT271A4-18 G51061-4-2-8
35			Screw Gang Channel	HT271A4-13 G51061-4-2-9
36			Screw Gang Channel	NAS664V15HT G18421JL2-4-11
37			Screw Gang Channel	NAS664V17HT G18421JL2-2-11
38	  		Screw Gang Channel Screw Spacer Gang Channel Retainer	NAS665V17HT G50344-5-2-12 NAS665V18HT 74A110866-3657 G18421JL2-2-12 74A110976-2003, -2004
39	 		Screw Gang Channel Gang Channel	NAS665V17HT G50344-5-2-12 G18421JL2-3-12

Figure 1. Upper Skin Fasteners (Sheet 8)











IDX NO.	EFT		Nomenclature	Part Number
40			Screw Gang Channel	HT271A5-13 G50344-5-2-12
41			Screw Gang Channel	HT271A4-13 G51061-4-2-10
42			Screw Shim Shim Plate Nut	NAS665V18HT 74A110866-2621 74A110866-2623 F49249E5-2
43	 		Screw Gang Channel Screw Spacer Gang Channel	NAS665V16HT G50344-5-2-11 NAS665V16HT 74A110866-3659 G18421JL2-2-11
44	 		Screw Gang Channel Screw Spacer Gang Channel	NAS665V16HT G50344-5-2-11 NAS665V17HT 74A110866-3661 G18421JL2-2-11
45			Screw Spacer Plate Nut	NAS665V16HT 74A110866-2275, -2276 F49249E5-2
46	   		Screw Gang Channel Spacer Gang Channel Spacer Gang Channel Plate Nut	NAS66515HT 74B110052-2011 74A110866-3703 74B110052-2015 74A110866-3733 74B110052-2019 MF50591-5-2
47			Screw Plate Nut	NAS665V16HT F49249E5-2
48			Screw Plate Nut	NAS665V15HT F49249E5-2
49			Screw Plate Nut	NAS665V15HT F14427-2-5
50			Screw Gang Channel	NAS665V16HT G18421JL2-2-10
51	 		Screw Plate Nut Plate Nut	HT271A5-17 F50339-5-2 F50405-5
52			Screw Spacer Gang Channel	HT4024L7-16 74A110866-3153 74B110051-2015

Figure 1. Upper Skin Fasteners (Sheet 9)













IDX NO.	EFT		Nomenclature	Part Number
53			Screw Spacer Gang Channel	HT4020-7-16 74A110866-3261 74B110051-2007
54			Screw Spacer Gang Channel	HT4024L7-16 74A110866-3261 74B110051-2007
55			Screw Spacer Gang Channel	HT4020-5-11A 74A110866-2491 G50344-5-2-10
56			Screw Spacer Washer Gang Channel	HT4020-5-11A 74A110866-2491 4M264-2 G50344-5-2-10
57			Screw Washer Plate Nut	HT4020-6-16A 4M264-4 F50403-6-2
58			Screw Washer Plate Nut	HT4020-6-20A 4M264-4 F50403-6-2
59	  		Screw Washer Plate Nut Plate Nut	HT4020-5-18A 4M264-4 F50403-5-2 F50339-5-2
60			Screw Shim Shim Washer Plate Nut	HT4020-6-14A 74A110866-3049 74A110866-3051 4M264-4 F50339-6-2
61			Screw Washer Plate Nut	HT4020-5-14A 4M264-4 F50403-5-2
62			Screw Plate Nut	HT4020-6-12A F50339-6-2
63			Screw Spacer Washer Plate Nut	HT5020-5-14A 74A110866-2233, -2234 4M264-3 F50403-5-1
64	  		Screw Spacer Gang Channel Screw Spacer Gang Channel Washer	HT271A5-12 74A110866-2227, -2228 G50344-5-1-12 HT40205-12A 74A110866-2227, -2228 G50344-5-1-11 4M264-3

Figure 1. Upper Skin Fasteners (Sheet 10)





IDX NO.	EFT		Nomenclature	Part Number
65	 		Screw Screw Plate Nut	HT271A5-11 HT4020-5-11 F50339-5-2
66	 		Screw Screw Plate Nut	HT271A5-15 HT4020-5-11 F50403-5-2
67			Screw Spacer Plate Nut	HT4020-5-15A 74A110866-3275 F50403-5-1
68			Screw Plate Nut	HT271A4-15 F50340-4-2
69			Screw Gang Channel	HT271A4-11 G51061-4-2-6
70			Screw Gang Channel	HT271A4-12 G5106-4-2-6
71			Screw Gang Channel	HT271A4-12 G51061-4-2-4
72			Screw Gang Channel	HT271A4-13 G51061-4-2-4
73			Screw Gang Channel	HT271A4-12 G51061-4-2-5
74			Screw Gang Channel	HT271A4-13 G51061-4-2-5
75			Screw Gang Channel	HT271A4-13 G51061-4-2-9
76			Screw Gang Channel	HT271A4-13 G51061-4-2-10
77			Screw Spacer Gang Channel	HT271A4-12 74A110866-2651 G51061-4-2-10
78			Screw Spacer Gang Channel	HT271A4-12 74A110866-2235 74A110052-2003
79			Screw Gang Channel	HT271A5-14 G50344-5-2-12
80			Screw Gang Channel	HT271A5-14 G50344-5-2-12
81			Screw Gang Channel	HT271A4-13 G51061-4-2-8
82			Screw Gang Channel	HT271A4-14 G51061-4-2-8

Figure 1. Upper Skin Fasteners (Sheet 11)


IDX NO.	EFT		Nomenclature	Part Number
83			Screw Gang Channel	HT271A5-17 G50344-5-2-13
84			Screw Plate Nut	HT271A5-17 F50339-5-2
85			Screw Gang Channel	HT271A4-15 G51061-4-2-9
86			Screw Gang Channel	HT271A4-15 G51061-4-2-8
87			Screw Gang Channel	HT271A4-15 G51061-4-2-8
88			Screw Gang Channel	HT271A4-14 G51061-4-8
89			Screw Gang Channel	HT271A5-15 G50344-5-2-12
90			Screw Gang Channel	HT271A5-16 G50344-5-2-12
91			Screw Plate Nut	HT271A6-18 F50339-6-2
92			Screw Plate Nut	HT271A4-17 F50340-4-2
93			Screw Gang Channel	HT271A4-13 G51061-4-2-8
94			Screw Gang Channel	HT271A4-14 G51061-4-2-11
95			Screw Spacer Gang Channel	HT271A4-13 74A110866-3755 G51061-4-2-10
96			Screw Gang Channel	HT271A4-13 G51061-4-2-9
97			Screw Plate Nut	HT271A5-16 G51061-4-2-8
98			Screw Gang Channel	HT271A4-13 G51061-4-2-9
99			Screw Plate Nut	HT271A4-14 G50403-4-2
100			Screw Gang Channel	HT271A4-14 G51061-4-2-12
101			Screw Plate Nut	HT271A4-14 G51061-4-2-8

Figure 1. Upper Skin Fasteners (Sheet 12)

IDX NO.	EFT		Nomenclature	Part Number
102			Screw Gang Channel	HT4020-5-14A G50344-5-2-12
103			Screw Plate Nut	HT271A5-16 F50339-5-2
104			Screw Spacer Gang Channel	HT4020-7-13A 74A110866-3251 74B110051-2007
105			Screw Spacer Gang Channel	HT4024L7-13 74A110866-3251 74B110051-2007
106			Screw Spacer Gang Channel	HT4020-7-17A 74A110866-3261 74B110051-2015
107			Screw Spacer Gang Channel	HT4024L7-17 74A110866-3261 74B110051-2015
108			Screw Spacer Gang Channel	HT4020-7-14A 74A110866-3247 74B110051-2013
109			Screw Spacer Gang Channel	HT4024L7-14 74A110866-3247 74B110051-2013
110			Screw Spacer Gang Channel	HT4020-7-13A 74A110866-3255, -3256 74B110051-2013
111			Screw Spacer Gang Channel	HT4024L7-13 74A110866-3255, -3256 74B110051-2013
112			Screw Spacer Gang Channel	HT4020-7-13A 74A110866-3257, -3258 74B110051-2013
113			Screw Spacer Gang Channel	HT4024L7-13 74A110866-3257, -3258 74B110051-2013
114			Screw Spacer Gang Channel	HT4020-5-9A 74A110866-2295 G50344-5-1-9
115			Screw Gang Channel	HT4020-5-9A G50344-5-2-10
116			Screw Plate Nut	HT4020-6-14A F50403-6-2

Figure 1. Upper Skin Fasteners (Sheet 13)





IDX NO.	EFT		Nomenclature	Part Number
117			Screw Shim Plate Nut	HT4020-7-19A 74A110866-3213, -3214 F50339-7-1
118			Screw Screw Spacer Gang Channel	HT271A5-13 HT4020-5-13A 74A110866-2229, -2230 G50344-5-1-12
119			Screw Screw Gang Channel	HT271A5-11 HT4020-5-11A G50344-5-2-12
120			Screw Screw Plate Nut	HT271A5-13 HT4020-5-13A F50403-5-2
121			Screw Plate Nut	HT4020-6-16A F50339-6-2
122			Screw Gang Channel	HT4020-5-14A G50344-5-2-12
123			Screw Shim Plate Nut	HT4020-7-19A 74A110866-3045, -3047 F50339-7-2
124			Screw Plate Nut	HT4020-5-14A F50403-5-2
125			Screw Screw Gang Channel	HT271A5-11 HT4020-5-11A G50344-5-2-12
126			Screw Plate Nut	HT271A4-15 F50402-4-2
127			Screw Spacer Gang Channel	HT271A4-13 74A110866-2583 G51061-4-2-10
128			Screw Gang Channel	HT271A4-11 G51061-4-2-8
129			Screw Gang Channel	HT271A4-12 G51061-4-2-8
130			Screw Gang Channel	HT271A4-12 G51061-4-2-8
131			Screw Gang Channel	HT271A4-13 G51061-4-2-8
132			Screw Gang Channel	HT271A4-13 G51061-4-2-8
133			Screw Gang Channel	HT271A4-13 G51061-4-2-10

Figure 1. Upper Skin Fasteners (Sheet 14)

IDX NO.	EFT		Nomenclature	Part Number
134			Screw Gang Channel	HT271A4-13 G51061-4-8
135			Screw Gang Channel	HT271A4-13 G51061-4-2-8
136			Screw Gang Channel	HT271A4-13 G51061-4-9
137			Screw Spacer Plate Nut	HT271A4-13 74A110866-2183, -2184 MS21060L4
138			Screw Gang Channel	HT271A4-15 G51061-4-2-12
139			Screw Gang Channel	HT271A5-15 74B110052-2011
140			Screw Gang Channel	HT271A5-16 G50344-5-2-14
141			Screw Gang Channel	HT271A4-16 G51061-4-2-14
142			Screw Gang Channel	HT271A5-17 G50344-5-2-14
143			Screw Gang Channel	HT271A5-16 G50344-5-2-14
144			Screw Gang Channel	HT271A4-15 G51061-4-2-9
145			Screw Gang Channel	HT271A4-15 G51061-4-2-9
146			Screw Gang Channel	HT271A4-15 G51061-4-2-9
147			Screw Gang Channel	HT271A4-15 G51061-4-2-8
148			Screw Gang Channel	HT271A4-14 G51061-4-2-8
149			Screw Gang Channel	HT271A4-13 G51061-4-2-8
150			Screw Plate Nut	HT271A4-12 F50339-4-2
151			Screw Gang Channel	HT271A4-14 G51061-4-2-16
152			Screw Spacer Gang Channel	HT271A4-13 74A110866-2301 G51061-4-8

Figure 1. Upper Skin Fasteners (Sheet 15)



IDX NO.	EFT		Nomenclature	Part Number
153			Screw Gang Channel	HT271A4-15 G51061-4-2-11
154			Screw Plate Nut	HT271A5-15 74A110893-1033, -1034
155			Screw Plate Nut	HT271A5-19 F50339-5-2
156			Screw Gang Channel	HT271A4-17 G51061-4-2-10
157			Screw Gang Channel	HT271A4-15 G51061-4-2-10
158			Screw Gang Channel	HT271A4-13 G51061-4-2-9
159			Screw Gang Channel	HT271A4-14 G51061-4-2-11
160			Screw Plate Nut	HT271A4-15 74A110893-1031, -1032
161			Screw Plate Nut	HT271A4-15 74A110893-1029, -1030
162			Screw Plate Nut	HT271A4-14 74A110893-1021
163			Screw Plate Nut	HT271A4-15 74A110893-1021
164			Screw Gang Channel	HT271A4-14 G51061-4-2-10
165			Screw Spacer Gang Channel	HT271A4-15 74A110866-2307 G51061-4-9
166			Screw Plate Nut	HT271A5-15 F49249E5-2
167			Screw Spacer Gang Channel	HT4020-7-16A 74A110866-3249 74B110051-2013
168			Screw Spacer Gang Channel	HT4024L7-16 74A110866-3249 74B110051-2013
169			Screw Screw Gang Channel	HT271A5-12 HT4020-5-12A G50344-5-2-12
170			Screw Screw Plate Nut	HT271A5-11 HT4020-5-11A F50339-5-2

Figure 1. Upper Skin Fasteners (Sheet 16)




IDX NO.	EFT		Nomenclature	Part Number
171			Screw Plate Nut	HT4020-5-13A F50339-5-2
172			Screw Screw Gang Channel	HT271A5-12 HT4020-5-12A G50344-5-1-12
173			Screw Screw Plate Nut	HT271A5-12 HT4020-5-12A F50403-5-2
174			Screw Gang Channel	HT271A4-14 G51061-4-2-8
175			Screw Spacer Gang Channel	HT271A4-12 74A110866-2145 G51061-4-8
176			Screw Spacer Spacer Gang Channel	HT271A4-11 74A10866-2145 74A110866-2145 G51061-4-8
177			Screw Spacer Spacer Gang Channel	HT271A4-12 74A110866-2149 74A110866-2150 G51061-4-9
178			Screw Gang Channel	HT271A4-13 G51061-4-2-12
179			Screw Spacer Gang Channel	HT271A4-13 74A110866-2151 G51061-4-2-10
180			Screw Spacer Gang Channel	HT271A5-13 74A110866-2543 G50344-5-1-12
181			Screw Spacer Gang Channel	HT271A5-14 74A110866-2543 G50344-5-1-12
182			Screw Spacer Gang Channel	HT271A5-14 74A110866-2551 G50344-5-1-10
183			Screw Spacer Gang Channel	HT271A5-13 74A110866-2551 G50344-5-1-10
184			Screw Gang Channel	HT271A6-14 G50344-6-2-12
185			Screw Plate Nut	HT271A5-14 F50339-5-2

Figure 1. Upper Skin Fasteners (Sheet 17)

IDX NO.	EFT		Nomenclature	Part Number
186			Screw Washer Nut	NAS666V15HT AN960C616L NAS1291C6M
187			Screw Gang Channel	HT271A4-13 G51061-4-2-9
188			Screw Gang Channel	HT271A5-13 G50344-5-2-12
189			Screw Gang Channel	HT271A4-11 G51061-4-8
190			Screw Gang Channel	HT271A4-10 G51061-4-2-9
191			Screw Gang Channel	HT271A4-10 G51061-4-2-9
192			Screw Gang Channel	HT271A4-10 G51061-4-2-9
193			Screw Gang Channel	HT271A4-10 G51061-4-2-9
194			Screw Gang Channel	HT271A4-10 G51061-4-2-10
195			Screw Gang Channel	HT271A4-9 G51061-4-2-10
196			Screw Gang Channel	HT271A4-9 G51061-4-2-8
197			Screw Plate Nut	HT271A5-11 74A110893-1013, -1014
198			Screw Plate Nut	HT271A5-11 F50403-5-2
199			Screw Plate Nut	HT271A4-9 F50339-4-2
200			Screw Gang Channel	HT271A4-8 G51061-4-2-8
201			Screw Gang Channel	HT271A4-11 G51061-4-2-10
202			Screw Gang Channel	HT271A4-12 G51061-4-2-14
203			Screw Gang Channel	HT271A4-12 G51061-4-2-12
204			Screw Gang Channel	HT271A4-11 G51061-4-2-9

Figure 1. Upper Skin Fasteners (Sheet 18)



IDX NO.	EFT		Nomenclature	Part Number
205			Screw Spacer Gang Channel	HT271A4-14 74A110866-2155 G51061-4-2-8
206			Screw Spacer Gang Channel	HT271A4-17 74A110866-2155 G51061-4-2-8
207			Screw Plate Nut	HT271A5-15 G50339-5-2
208			Screw Spacer Gang Channel	HT4020-7-17A 74A110866-3249 74B110051-2013
209			Screw Spacer Gang Channel	HT4024L7-17 74A110866-3249 74B110004-2013
210			Screw Spacer Gang Channel	HT4020-7-12A 74A110866-3257, -3258 74B110051-2013
211			Screw Spacer Gang Channel	HT4024L7-12 74A110866-3257, -3258 74B110051-2013
212			Screw Spacer Gang Channel	HT4020-7-14A 74A110866-3247 74B110051-2013
213			Screw Spacer Gang Channel	HT4024L7-14 74A110866-3247 74B110051-2013
214			Screw Gang Channel	HT4020-5-9A G50344-5-2-10
215			Screw Plate Nut	HT4020-6-14A F50403-6-2
216			Screw Plate Nut	HT4020-6-17A F50403-6-2
217			Screw Shim Shim Plate Nut	HT4020-6-17A 74A110866-3041 74A110866-3043 F50403-6-2
218			Screw Screw Gang Channel	HT271A5-11 HT4020-5-11A G50344-5-2-15
219			Screw Screw Gang Channel	HT271A5-16 HT4020-5-16A G50344-5-2-12

Figure 1. Upper Skin Fasteners (Sheet 19)






IDX NO.	EFT		Nomenclature	Part Number
220			Screw Plate Nut	HT271A4-11 F50339-4-2
221			Screw Spacer Gang Channel	HT271A4-11 74A110866-2053 G51061-4-2-8
222			Screw Spacer Spacer Gang Channel	HT271A4-11 74A110866-2103 74A110866-3757 G51061-4-8
223			Screw Gang Channel	HT271A4-12 G51061-4-2-10
224			Screw Gang Channel	HT271A6-17 G50344-6-2-14
225			Screw Gang Channel	HT271A6-16 G50344-6-2-14
226			Screw Plate Nut	HT271A6-18 F50339-6-2
227			Screw Plate Nut	HT271A6-17 F50339-6-2
228			Screw Spacer Gang Channel	HT271A4-11 74A110866-2061 G51061-4-8
229			Screw Spacer Gang Channel	HT271A4-10 74A110866-3103 G51061-4-8
230			Screw Gang Channel	HT271A4-10 G51061-4-2-8
231			Screw Spacer Gang Channel	HT271A4-10 74A110866-2539 G51061-4-11
232			Screw Plate Nut	HT271A4-10 F50340-4-2
233			Screw Shim Shim Gang Channel	HT271A5-13 74A0866-2041 74A0866-2071 G50344-5-2-12
234			Screw Shim Shim Gang Channel	HT271A5-12 74A110866-2073 74A110866-2439 G50344-5-2-14
235			Screw Gang Channel	HT271A4-8 G51061-4-2-8

Figure 1. Upper Skin Fasteners (Sheet 20)




IDX NO.	EFT		Nomenclature	Part Number
236			Screw Spacer Plate Nut	HT271A4-10 74A110866-2075 MS21060L4
237			Screw Plate Nut	HT271A4-8 F50339-4-2
238			Screw Gang Channel	HT271A4-10 G51061-4-2-12
239			Screw Spacer Gang Channel	HT271A4-10 74A110866-2079 G51061-4-2-12
240			Screw Gang Channel	HT271A4-16 G51061-4-2-10
241			Screw Plate Nut	HT271A5-17 F50340-5-2
242			Screw Spacer Spacer Gang Channel	HT4020-7-16A 74A110866-3261 74A110866-3773 74B110051-2007
243			Screw Spacer Gang Channel	HT4020-7-16A 74A110866-3261 74B110051-2007
244	 		Screw Screw Spacer Gang Channel	NAS665V10HT HT4025L5-10 74A110886-3663 G18421J12-5-10
245			Screw Spacer Gang Channel	HT4025L5-15 74A110866-3665 G18421JL2-5-12
246			Screw Spacer Gang Channel	HT4020-5-15A 74A110866-3665 G18421JL2-5-12
247			Screw Spacer Spacer Gang Channel	HT4025L5-16 74A110866-3667 74A110866-3668 G18421JL2-5-12
248			Screw Spacer Spacer Gang Channel	HT4020-5-16A 74A110866-3667 74A110866-3668 G18421JL2-5-12
249			Screw Spacer Gang Channel	NAS664V14HT 74A110866-2649 G18421JL2-5-8

Figure 1. Upper Skin Fasteners (Sheet 21)

IDX NO.	EFT		Nomenclature	Part Number
250			Screw Gang Channel	HT271A4-10 G51061-4-2-8
251			Screw Gang Channel	HT271A4-11 G51061-4-2-8
252			Screw Gang Channel	HT271A4-12 G51061-4-2-8
253			Screw Gang Channel	NAS664V12HT G1842JL-2-4-10
254			Screw Gang Channel	NAS664V12HT G18421JL-2-4-12
255			Screw Spacer Gang Channel	NAS664V12HT 74A110866-2647 G18421JL-2-4-12
256			Screw Gang Channel	HT271A4-12 G51061-4-2-10
257			Screw Spacer Gang Channel	HT271A4-12 74A110866-2647 G51061-4-2-12
258	<div>12</div> <div>20</div> <div>11</div>		Screw Spacer Gang Channel Screw Spacer Gang Channel Screw Spacer Gang Channel	HT271A4-13 74A110866-3089 G51061-4-2-12 HT271A5-13 74A110866-3717 G18421JL2-2-8 HT271A5-14 74A110866-3741 G18421JL-2-8
259	<div>12</div> <div>20</div> <div>11</div>		Screw Spacer Gang Channel Screw Spacer Gang Channel Screw Spacer Gang Channel	NAS664V14HT 74A110866-3671 G18421JL2-2-12 NAS664V13HT 74A110866-3717 G18421JL2-2-8 NAS664V14HT 74A110866-3741 G18421JL2-2-8
260	<div>12</div> <div>20</div> <div>11</div>		Screw Spacer Gang Channel Screw Spacer Gang Channel Screw Spacer Gang Channel	NAS664V14HT 74A110866-3671 G18421JL2-4-12 NAS665V13HT 74A110866-3717 G18421JL1-2-8 NAS665V14HT 74A110866-3741 G18421JL1-2-8

Figure 1. Upper Skin Fasteners (Sheet 22)

IDX NO.	EFT		Nomenclature	Part Number
261	<div>12</div> <div>20</div> <div>11</div>		Screw Spacer Gang Channel Screw Spacer Gang Channel Screw Spacer Gang Channel	NAS664V14HT 74A110866-3651 G18421JL2-4-10 NAS664V15HT 74A110866-3719 G18421JL2-5-10 NAS665V17HT 74A110866-3739 G18421JL1-5-10
262	<div>12</div> <div>20</div> <div>11</div>	<div>32</div> <div>32</div> <div>32</div> <div>33</div>	Screw Spacer Gang Channel Screw Spacer Gang Channel Screw Spacer Gang Channel Blind Fastener	NAS664V15HT 74A110866-3673 G18421JL2-2-10 NAS665V15HT 74A110866-3719 G18421JL2-4-10 NAS665V17HT 74A110866-3739 G18421JL1-5-10 NAS1672-6L15
263	<div>12</div> <div>20</div> <div>11</div>		Screw Gang Channel Screw Spacer Gang Channel Screw Spacer Gang Channel	HT271A4-14 G51061-4-2-10 HT271A4-15 74A110866-3719 G18421JL2-5-10 HT271A5-17 74A110866-3739 G18421JL1-5-10
264	<div>12</div> <div>20</div> <div>11</div>	<div>32</div> <div>32</div> <div>32</div> <div>33</div>	Screw Gang Channel Screw Spacer Gang Channel Screw Spacer Gang Channel Blind Fastener	HT271A4-14 G51061-4-2-10 H271A5-15 74A110866-3719 G18421JL2-5-10 HT271A5-17 74A110866-3739 G18421JL1-5-10 NAS1672-6L15
265	<div>12</div> <div>20</div> <div>17</div> <div>17</div> <div>11</div> <div>19</div> <div>29</div>		Screw Spacer Gang Channel Screw Spacer Spacer Gang Channel Screw Spacer Spacer Gang Channel	HT4020-7-17 74A110866-3259 G18421JL2-7-14 HT4020-6-19 74A110866-3721 74A110866-3722 G49439E6-1-13 HT4020-6-21 74A110866-3737 74A110866-3738 G49439E6-1-13

Figure 1. Upper Skin Fasteners (Sheet 23)

IDX NO.	EFT		Nomenclature	Part Number
266	<div>12</div> <div>20</div> <div>17</div> <div>17</div> <div>11</div> <div>19</div> <div>29</div>		Screw Spacer Gang Channel Screw Spacer Spacer Gang Channel Screw Spacer Spacer Gang Channel	HT4025L7-17 74A110866-3259 G18421JL2-7-14 HT4025L6-19 74A110866-3721 74A110866-3722 G49439E6-1-12 HT4025L6-21 74A110866-3737 74A110866-3738 G49439E6-1-12
267			Screw Plate Nut	HT271A6-20 F50339-6-2
268			Screw Shim Shim Shim Shim Spacer Gang Channel	HT4025L7-22 74A110866-2095 74A110866-2135 74A110866-3125 74A110866-3127 74A110866-3129 G18421JL2-7-14
269			Screw Bushing Shim Shim Shim Shim Spacer Gang Channel	HT4020-7-22A 74A110944-2005 74A110866-2097 74A110866-2137 74A110866-3125 74A110866-3127 74A110866-3129 HT4020-7-22A
270	12		Screw Gang Channel	HT271A4-13 G51061-4-2-10
271	12		Screw Gang Channel	HT271A4-12 G51061-4-2-10
272	<div>19</div> <div>29</div>		Screw Rivet Spacer Spacer Gang Channel	HT4025L6-17 CSR904B-4-10 74A110866-3722 74A110866-3721 G49439E6-1-12
273	<div>19</div> <div>29</div>		Screw Rivet Spacer Spacer Gang Channel	HT4020-6-17A CSR904B-4-10 74A110866-3722 74A110866-3721 G49439E6-1-13
274			Screw Spacer Gang Channel	NAS665V14HT 74A110866-3719 G18421JL2-4-10

Figure 1. Upper Skin Fasteners (Sheet 24)




IDX NO.	EFT		Nomenclature	Part Number
275			Screw Bushings Shim Shim Shim Shim Spacer Gang Channel	HT4020-7-22A 74A110944-2005 74A110866-2095 74A110866-2135 74A110866-3125 74A110866-3127 74A110866-3129 HT4020-7-22A
276			Screw Gang Channel	NAS665V6HT G503445-2-10
277			Screw Spacer Gang Channel	HT271A5-14 74A110866-3719 G18421JL-2-5-10
278			Screw Spacer Gang Channel	HT295-7-16 74A110866-3259 G18421JL2-7-14
279			Screw Spacer Gang Channel	HT4020-7-16A 74A110866-3259 G18421JL2-7-14
280			Screw Spacer Gang Channel	NAS665V12HT 74A110866-3717 G1842JL1-5-8
281			Screw Spacer Gang Channel	NAS664V12HT 74A110866-3717 G18421JL2-4-8
282			Screw Spacer Gang Channel	HT271A5-12 74A110866-3717 G1842JL1-5-8
283			Screw Spacer Gang Channel	HT271A4-12 74A110866-2771 G51061-4-2-10
284			Screw Spacer Gang Channel	NAS664V12HT 74A110866-2771 G1842JL2-4-10
285			Screw Spacer Gang Channel	NAS664V12HT 74A110866-3091 G1842JL2-4-12
286			Screw Spacer Gang Channel	HT271A4-12 74A110866-3091 G51061-4-2-12
287			Screw Spacer Gang Channel	HT271A4-12 74A110866-2103 G51061-4-2-8

Figure 1. Upper Skin Fasteners (Sheet 25)

IDX NO.	EFT		Nomenclature	Part Number
288			Screw Spacer Gang Channel	NAS664V12HT 74A110866-2103 G18421JL2-4-8
289			Screw Spacer Gang Channel	NAS664V13HT 74A110866-3679 G1842LJL2-4-8
290			Screw Spacer Gang Channel	HT271A4-12 74A110866-2107 G51061-4-2-8
291			Screw Spacer Gang Channel	NAS664V12HT 74A110866-3681 G18421JL2-4-10
292			Screw Spacer Gang Channel	NAS664V12HT 74A110866-2639 G18421JL2-4-8
293			Screw Spacer Gang Channel	HT271A4-11 74A110866-2641 G51061-4-2-9
294			Screw Spacer Gang Channel	HT271A4-10 74A110866-2641 G51061-4-2-9
295			Screw Shim Shim Plate Nut	HT4020-5-15 74A110866-2535 74A110866-2537 F50339-5-2
296			Screw Shim Shim Gang Channel	NAS664V11HT 74A110866-2825 74A110866-2827 G18421JL2-4-10
297			Screw Gang Channel	NAS664V11HT G18421JL2-4-10
298			Screw Spacer Gang Channel	NAS664V11HT 74A110866-3653 G18421JL2-4-9
299			Screw Gang Channel	HT271A4-11 G51061-4-2-9
300			Screw Gang Channel	HT271A4-11 G51061-4-2-12
301			Screw Gang Channel	HT271A4-10 G51061-4-2-12
302			Screw Spacer Gang Channel	NAS664V11HT 74A110866-3683 G1842JL2-4-14

Figure 1. Upper Skin Fasteners (Sheet 26)



IDX NO.	EFT		Nomenclature	Part Number
303			Screw Spacer Gang Channel	NAS664V13HT 74A110866-3677 G18421JL2-4-12
304			Screw Gang Channel	NAS665V14HT G1842JL2-5-11
305			Screw Gang Channel	HT271A5-14 G1842JL2-5-11
306			Screw Spacer Spacer Plate Nut	NAS665V14HT 74A110866-3587 74A110866-3588 F14427-2-5
307			Screw Plate Nut	HT271A5-14 F50403-5-1
308			Screw Gang Channel	NAS664V14HT G1842JL2-4-8
309			Screw Gang Channel	HT271A4-14 G1842JL2-4-8
310			Screw Spacer Gang Channel	NAS664V13HT 74A110866-3685 G1842JL2-4-8
311			Screw Spacer Gang Channel	HT271A4-12 74A110866-3093 G51061-4-2-12
312			Screw Spacer Gang Channel	HT271A4-11 74A110866-2103 G51061-4-2-8
313			Screw Spacer Gang Channel	HT271A4-12 74A110866-2103 G51061-4-2-8
314			Screw Spacer Gang Channel	HT271A4-13 74A110866-2103 G51061-4-2-8
315			Screw Spacer Gang Channel	NAS664V17HT 74A110866-3655 G18421JL2-4-10
316			Screw Gang Channel	HT271A4-16 G51061-4-2-9
317			Screw Gang Channel	HT271A4-17 G51061-4-2-9
318			Screw Spacer Gang Channel	HT4020-7-16-9 74A110866-3261 74B110051-2007

Figure 1. Upper Skin Fasteners (Sheet 27)







IDX NO.	EFT		Nomenclature	Part Number
319			Screw Spacer Gang Channel	HT4025L6-15 74A110866-3155 G50344-6-1-11
320			Screw Spacer Gang Channel	HT4041-7-16-9 74A110866-3261 74B110051-2007
321			Screw Gang Channel	NAS665V10HT G50344-5-2-10
322			Screw Gang Channel	NAS665V9HT G503344-5-2-10
323			Screw Gang Channel	NAS665V8HT G50344-5-2-10
324			Screw Gang Channel	NAS665V7HT G50344-5-2-10
325	 		Injection Plug Injection Plug Screw	74A110949-2001 74A110996-2001 MS24693C26
326			Injection Plug Screw	74A110949-2001 MS24693C26
327			Screw Spacer Gang Channel	HT271A4-13 74A110866-2995 G51061-4-2-10
328			Screw Spacer Gang Channel	HT271A4-13 74A110866-2303 G51061-4-8
329			Screw Gang Channel	HT271A4-12 G51061-4-8
330			Screw Gang Channel	HT271A4-11 G51061-4-8
331			Screw Plate Nut	HT271A5-11 F50339-5-2
332			Screw Gang Channel	HT271A4-11 G51061-4-2-8
333			Screw Gang Channel	HT271A4-13 G51061-4-2-10
334			Screw Plate Nut	HT271A6-17 F50339-6-2
335			Screw Gang Channel	HT271A4-12 G51061-4-2-8
336			Screw Plate Nut	HT271A5-12 F50403-5-2

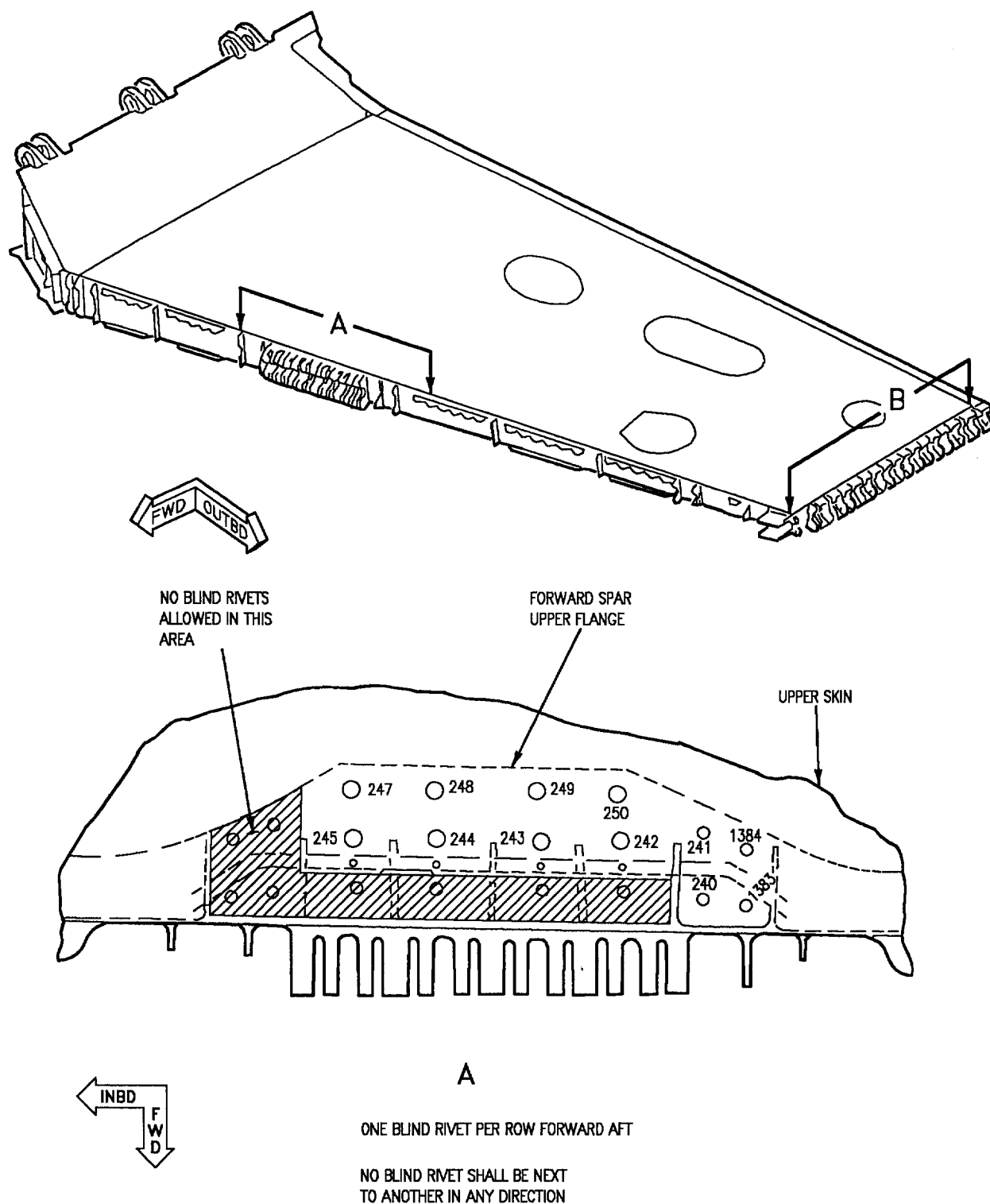
Figure 1. Upper Skin Fasteners (Sheet 28)

IDX NO.	EFT		Nomenclature	Part Number
337			Screw Gang Channel	HT271A4-12 G51061-4-2-12
338			Screw Gang Channel	HT271A4-11 G51061-4-2-12
339			Screw Spacer Gang Channel	HT271A4-16 74A110866-2079 G51061-4-2-12
340			Screw Plate Nut	HT271A4-16 F50339-4-2
341	<div>12</div> <div>20</div> <div>11</div>		Screw Spacer Gang Channel Screw Spacer Gang Channel Screw Spacer Gang Channel	HT271A4-13 74A110866-3089 G51061-4-2-12 HT271A5-13 74A110866-3717 G18421JL1-2-8 HT271A5-14 74A110866-3741 G18421JL1-2-8
342	<div>12</div> <div>3</div> <div>31</div>		Screw Gang Channel Screw Spacer Gang Channel Screw Spacer Gang Channel	HT271A4-13 G51061-4-2-10 HT271A5-15 74A110866-3719 G1842JL2-5-10 HT271A5-17 74A110866-3739 G1842JL1-5-10
343			Screw Spacer Gang Channel	HT271A4-12 74A110866-3717 G18421JL2-4-8
LEGEND <div>1</div> 161715 and Up. <div>2</div> 161353 thru 161528 <div>3</div> 161702 and Up. <div>4</div> 161702 thru 161713. <div>5</div> Left wing only. <div>6</div> Right wing only. <div>7</div> Two required. <div>8</div> For fasteners and attaching hardware (WP005 01). <div>9</div> For fasteners and attaching hardware (WP005 02). <div>10</div> 161353 thru 161965. <div>11</div> Left Side 162432 and Up, right side 162433 and Up. <div>12</div> 161353 thru 161977. <div>13</div> 161353 thru 161528. <div>14</div> 161702 and Up.				

Figure 1. Upper Skin Fasteners (Sheet 29)

IDX NO.	EFT		Nomenclature	Part Number
15			161353 thru 161965.	
16			162866 and Up.	
17			161978 thru 167986, 162394 and Up.	
18			161715 thru 162467.	
19			162432 and Up.	
20			Left Side 161978 thru 161986, 162394 thru 162431, right side 161978 thru 162432.	
21			161353 thru 162444.	
22			162445 and Up.	
23			161353 thru 161714.	
24			161966 thru 162414.	
25			162415 thru 163118.	
26			163119 and Up.	
27			161715 and Up.	
28			Left Side 161715 thru 162476, 162829, right side 161715 thru 162477.	
29			162433 and Up.	
30			161978 thru 161979.	
31			161980 and Up.	
32			Before IAFC 140.	
33			After IAFC 140.	
34			For hole number 143 only (WP003 03).	
35			For hole number 199 only (WP003 03).	

Figure 1. Upper Skin Fasteners (Sheet 30)



03010201

Figure 2. Allowable Location of Blind Rivets (Sheet 1)

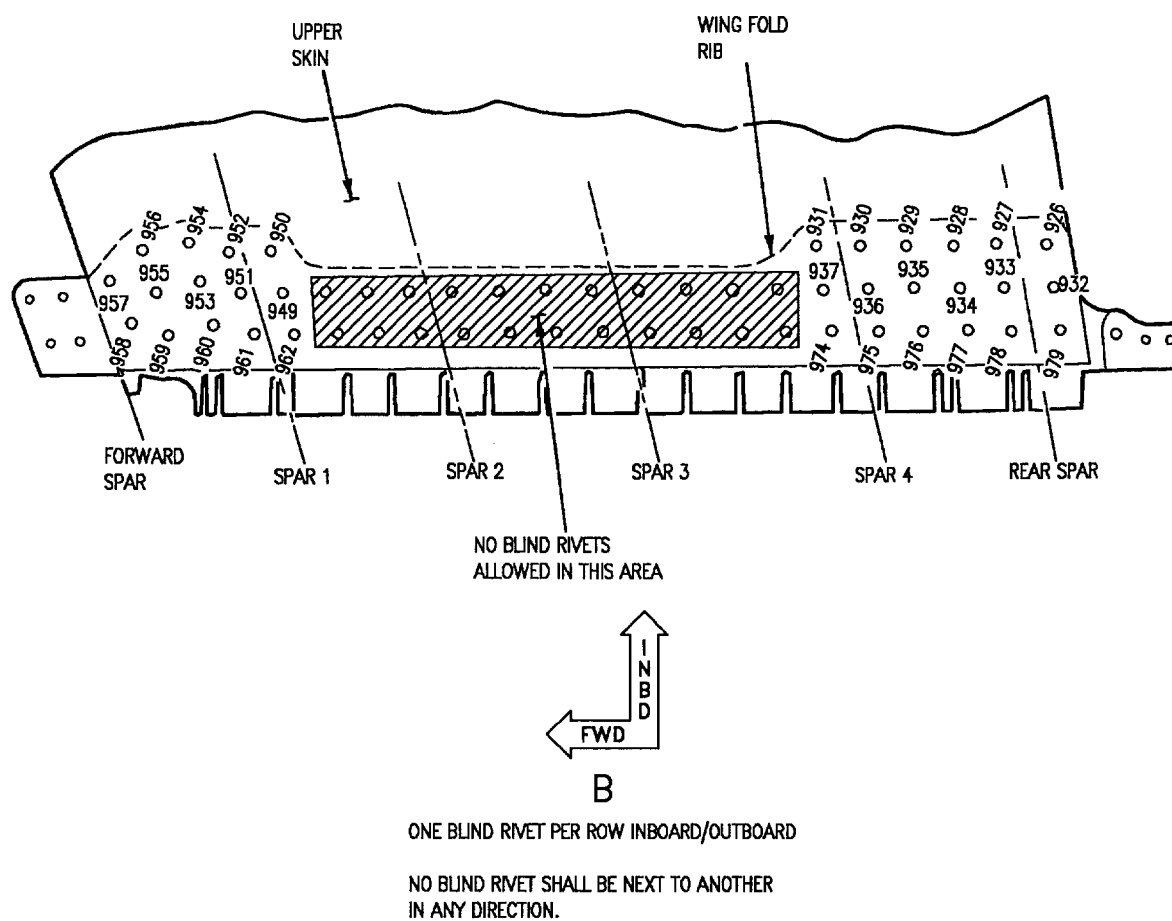


Figure 2. Allowable Location of Blind Rivets (Sheet 2)

ORGANIZATIONAL MAINTENANCE
STRUCTURE REPAIR
LOWER INNER WING SKIN FASTENERS

Reference Material

Structure Repair, Wing	A1-F18AC-SRM-210
Inner Wing Hole Numbers	WP003 03
Inner Wing External Metal Doors, Upper	WP005 01
Inner Wing External Doors 76, 77, 106, 191, 192 and 193	WP005 02
Wing Fuel Tank Fillet and Packing Sealing Procedures	WP018 00
Electrical System	A1-F18AC-420-300
Utility Battery and Charger Unit of Utility Battery	WP019 00
Emergency Battery and Charger Unit or Emergency Battery	WP020 00
Plane Captain Manual	A1-F18AC-PCM-000
Structure Repair, General Information	A1-F18AC-SRM-200
Gang Channel and Plate Nut Identification and Repair	WP004 05
Fasteners	WP004 06
Oversize Fasteners	WP004 07
Substitution Fasteners	WP004 09
Structural Hardware	NAVAIR 01-1A-8

Alphabetical Index

Subject	Page No.
Description	1
Repairs	2
Replacement	3
Injection Plug Replacement	3
Installation	3
Removal	3
Safety Precautions	2

Record of Applicable Technical Directives

Type/ Number	Date	Title and ECP No.	Date Incorp.	Remarks
F/A-18 IAFC 140	-	Wing Fatigue Repairs (ECP MDA-F/A-18-00353)	1 April 92	-

1. DESCRIPTION.

2. This work package contains instructions for the re-

moval and installation of the inner wing skin fasteners and attaching hardware. Observe all safety precautions. Refer to Safety Precautions, this WP.

3. SAFETY PRECAUTIONS.

WARNING

Physical damage can be caused by inhaling of or continued exposure to vapors from toxic chemicals used in sealing procedures. Failure to do steps below before or during fuel tank maintenance may result in death or injury to personnel, or damage to aircraft.

- a. Make sure external electrical and hydraulic power are removed from aircraft, disconnect and tie back leads to utility and emergency batteries (A1-F18AC-420-300, WP019 00 and WP020 00), and a NO POWER placard is over power receptacle.
- b. Make sure aircraft is grounded to approved static grounding point before starting any maintenance (A1-F18AC-PCM-000).
- c. Make sure all ground support equipment is grounded to approved static grounding points before starting any maintenance.
- d. Make sure radar is not operating in the vicinity of maintenance.
- e. Make sure enough fire fighting equipment is available.
- f. Do not allow smoking within 100 feet of maintenance operation.
- g. Do not allow operation of aircraft engines and/or spark/heat producing equipment within 50 feet of maintenance operation.
- h. Do not allow any liquid oxygen operations within 100 feet of maintenance operation.
- i. Only explosion-proof droplights and flashlights are to be used during maintenance operation.
- j. Any power tools required during maintenance must be air driven.
- k. In areas of heavy chemical vapors concentration, wear protective clothing and face mask respirators.

l. Presence of a safety observer is required during maintenance operations.

m. Keep access openings covered when not working in fuel tank.











4. REPAIRS.

5. When plate nut and/or gang channel is damaged, a blind rivet may be installed for a temporary repair. Blind rivets are to be replaced with replacement plate nut and/or gang channel when upper skin is removed. For hole number location (WP003 03). For installation of blind rivets (NAVAIR 01-1A-8) and table 1. For allowable blind rivet location in high stress areas, see figure 5.

NOTE

The numbers referred to in table 1 are hole numbers and are found in figure 2 or in WP003 03. The numbers on figure 1 are index numbers relating to fasteners in chart.

Table 1. Repair Fasteners 

Hole Numbers	Fastener 
174 to 177	MS90353-14()D Blind Rivet
179 to 182	MS90353-14()D Blind Rivet
 183	MS90353-12()D Blind Rivet
 183	MS90353-14()D Blind Rivet
 189	MS90353-12()D Blind Rivet
 189	MS90353-14()D Blind Rivet
987 to 1004	MS90353-14()D Blind Rivet
 1440 to 1441	MS90353-12()D Blind Rivet
LEGEND  Length to be determined on installation.  161353 thru 161977.  161978 and Up.  Replacement fasteners for holes not listed require a depot engineering disposition.	

6. **REPLACEMENT.** See figures 1, 2, 3, and 4.

7. Fasteners and attaching hardware can be removed per Removal, this WP and installed per Installation, this WP.

Support Equipment Required

None

Materials Required

None

8. **REMOVAL.**



Failure to defuel aircraft will cause a fuel leak.

a. Defuel aircraft (A1-F18AC-PCM-000, WP011 00).

NOTE

The figure identifies the types of fasteners and attaching hardware used.

b. Remove fasteners and attaching hardware.

9. **INSTALLATION.**

a. For replacement of preformed O-ring packing; resealing procedure, packing (WP018 00).

NOTE

To reinstall, see figure for types of fasteners and attaching hardware.

b. For installation of fasteners and attaching hardware (A1-F18AC-SRM-200, WP004 05, WP004 06, WP004 07, and WP004 09).

c. If aircraft was defueled to replace fasteners and attaching hardware, refuel aircraft (A1-F18AC-PCM-000) and inspect for leaks around fasteners.

10. **INJECTION PLUG REPLACEMENT.** The procedure below is for bonding of loose or damaged injection plugs into wing skin.

Support Equipment Required

None

Materials Required

Specification or Part Number

Nomenclature

EC-2216 B/A

Adhesive

H-B-643, Type 2
Class 1

Brush, Acid Swab

UU-C-806, Type 1,
Style A, Class 1

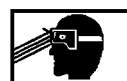
Cup, Paper
Wax-Free

TT-I-735

Isopropyl, Alcohol

CCC-C-440, Type 1
Class 1

Cheesecloth



Isopropyl Alcohol

9

b. Clean bonding surface of injection plug hole using isopropyl alcohol and brush.



Adhesive

13

c. Prepare Adhesive:

(1) Mix thoroughly 100 parts by weight, or 100 parts by volume, base B, with 140 parts by weight, or 150 parts by volume, hardener A. A thorough mixture will change color from off-white to dark gray.

(2) Work life is 1-1/2 hours.

d. Apply thin film of mixture to hole and injection plug. Assemble immediately. Apply pressure to be sure of complete contact.

e. Wipe squeeze-out flush with mold line using clean, dry cheesecloth.

f. Cure adhesive three to seven days at room temperature or 30 to 60 minutes at 200°F ± 10°F.

CAUTION

THE NUMBERS SHOWN IN THIS
FIGURE ARE INDEX NUMBERS.
SEE WP003 03 FOR HOLE NUMBERS.
WRONG HOLE SIZE COULD BE DETERMINED.

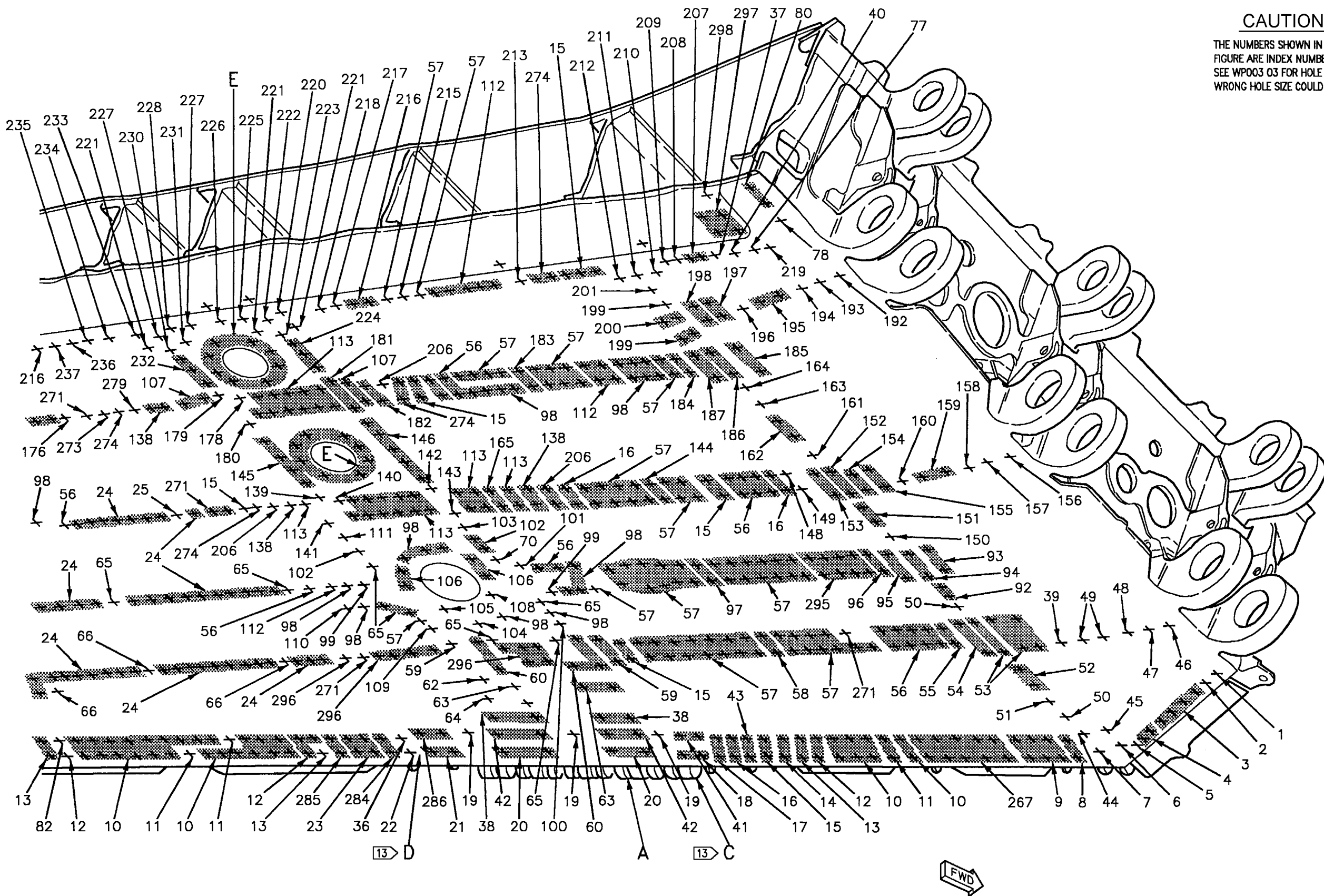


Figure 1. Skin (74A110601) Fasteners (Sheet 1)

CAUTION

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FIGURE ARE INDEX NUMBERS.
SEE WPO03 03 FOR HOLE NUMBERS.
WRONG HOLE SIZE COULD BE DETERMINED.

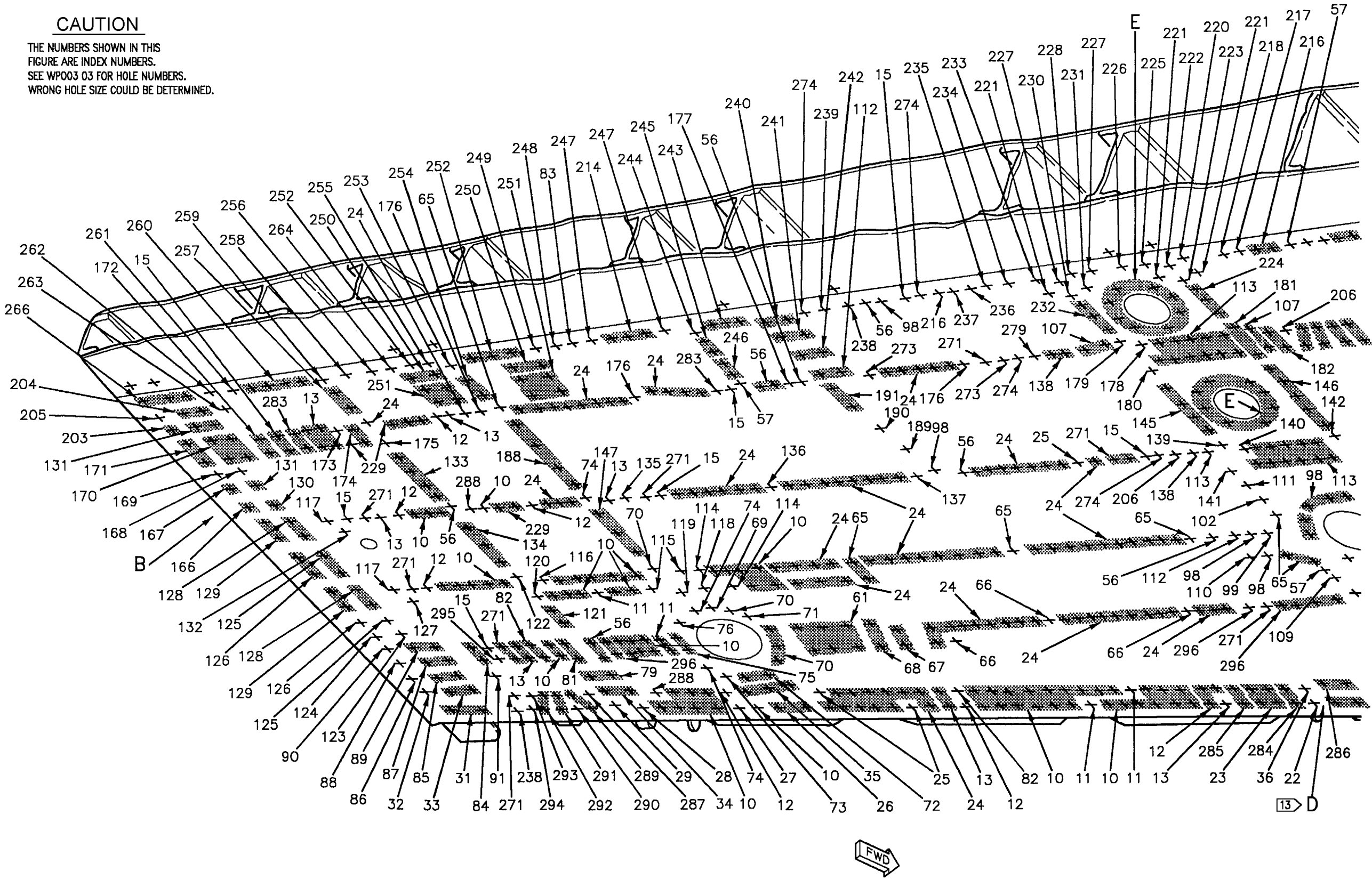
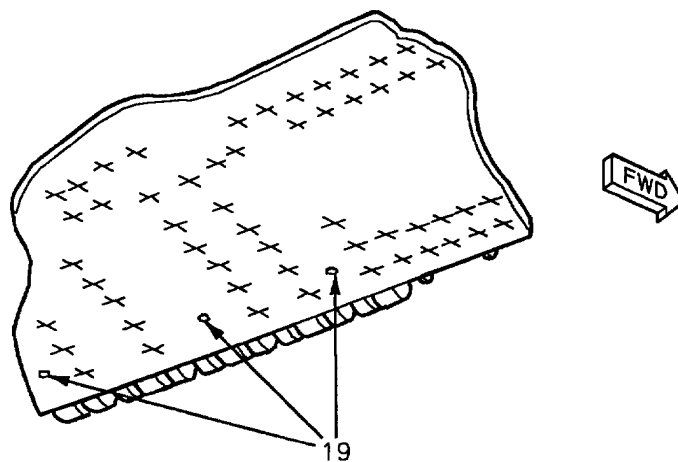


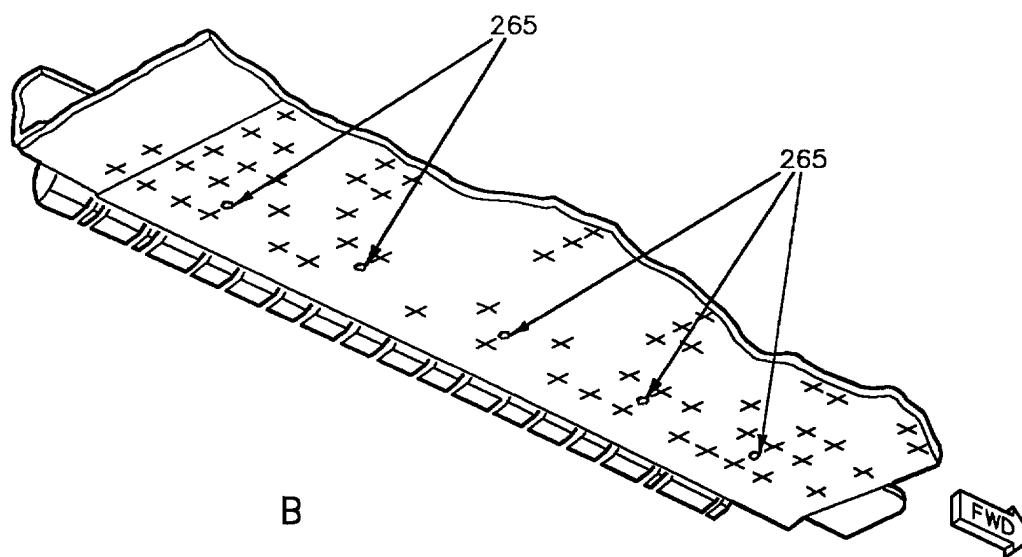
Figure 1. Skin (74A110601) Fasteners (Sheet 2)



A

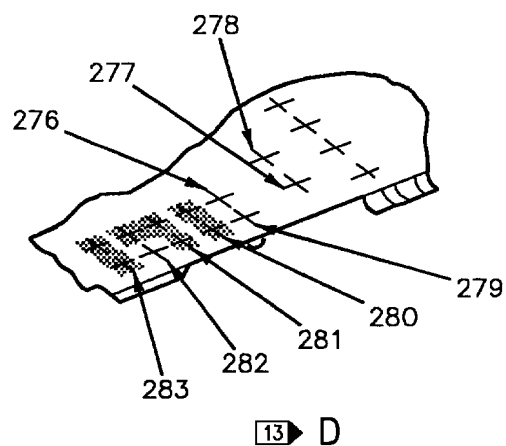
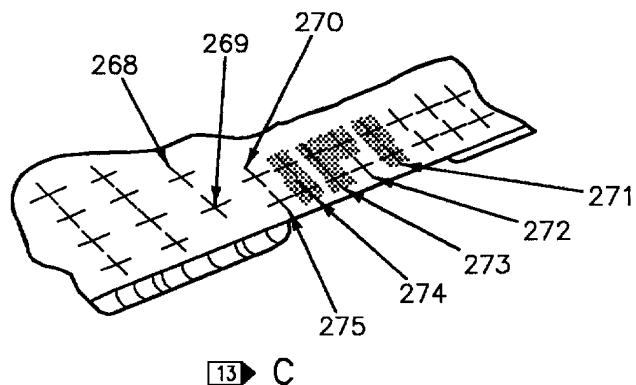
CAUTION

THE NUMBERS SHOWN IN THIS
FIGURE ARE INDEX NUMBERS.
SEE WP003 03 FOR HOLE NUMBERS.
WRONG HOLE SIZE COULD BE DETERMINED.



B

Figure 1. Skin (74A110601) Fasteners (Sheet 3)



CAUTION

THE NUMBERS SHOWN IN THIS
FIGURE ARE INDEX NUMBERS.
SEE WPO03 03 FOR HOLE NUMBERS.
WRONG HOLE SIZE COULD BE DETERMINED.

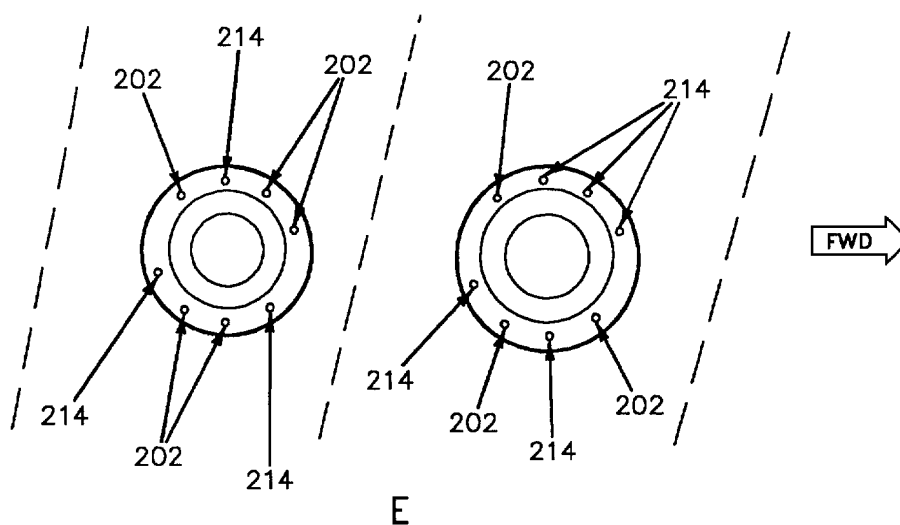


Figure 1. Skin (74A110601) Fasteners (Sheet 4)

IDX NO.	EFT		Nomenclature	Part Number
1			Pin Collar Washer	HLT313DL-10-7 TLN1002CD3-5 AN960JD516L
2			Pin Collar Washer Setscrew	HLT265T10-8-21 TLN1002CD3-5 N960JD516L NAS1081C06A3
3			Pin Collar Washer	HLT313DL-10-8 TLN1002CD3-5 AN960JD516L
4			Pin Collar Washer	HLT313DL-10-9 TLN1002CD3-5 AN960JD516L
5			Pin Collar Washer Setscrew	HLT265TB10-9-33 TLN1002CD3-5 AN960JD516L NAS1081C06A3
6			Pin Collar Washer Setscrew	HLT265TB10-12-49 TLN1023CD3-5 TLN1023CD3L-5 NAS1081C06A3
7	<div>5</div> <div>6</div>		Pin Collar Washer Setscrew Pin Collar Washer Setscrew	HLT265T10-12-49 SW2000-10A SW2000-10W NAS1081C06A3 HLT265T10-12-49 TLN1002CD3-5 TLN1023CD3L-5 NAS1081C06A3
8	<div>5</div> <div>6</div>		Pin Collar Setscrew Pin Collar	HLT265TB8-9-30 HL570-8MC NAS1081C06A3 HLT265T8-9-30 VN376D4W
9	<div>5</div> <div>6</div>		Pin Collar Pin Collar Washer	HLT313DL-8-9 HL570-8MC HLT313DL-8-9 NAS1291C4 AN960JD516L
10			Pin Collar	HLT313DL-8-10 HL570-8MC

Figure 1. Skin (74A110601) Fasteners (Sheet 5)


















IDX NO.	EFT		Nomenclature	Part Number
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12			Pin Collar Washer	HLT313DL-8-10 HL582-8-MCA SW2000-8W
13			Pin Collar Washer	HLT313DL-8-11 HL582-8MCA SW2000-8W
14			Pin Collar Washer Setscrew	HLT265TB8-12-49 HL582-8MCA SW2000-8W NAS1081C06A3
15			Pin Collar Washer	HLT313DL-8-13 HL582-8MCA SW2000-8W
16	 	  	Pin Collar Washer Pin Collar Washer Blind Fastener	HLT313DL-10-14 HL582-10MCA SW2000-10W HLT313DL-10-15 HL582-10MCA SW2000-10W NAS1672-6L14
17	 	  	Pin Collar Washer Pin Collar Washer Blind Fastener	HLT313DL-10-15 HL582-10MCA SW2000-10W HLT313DL-10-17 HL582-10MCA SW2000-10W NAS1672-6L15
18	 		Bolt Gang Channel Rivet Bolt Gang Channel Rivet	HT4025L6-19 G49439E6-1-2 CSR904B-4-10 HT4025L6-21 G49439E6-1-2 CSR904B-4-10
19			Injection Plug Screw	74A110996-2001 MS24693C26
20		   	Screw Screw Bushing Bushing	HT4025L7-25 HT4025L7-25 74R110015-2005 74R110015-2009

Figure 1. Skin (74A110601) Fasteners (Sheet 6)








IDX NO.	EFT		Nomenclature	Part Number
21			Screw Rivet Gang Channel	HLT4025L6-1 CSR904B-4-10 G49439E6-1-12
22			Pin Collar Washer	HTL313DL-10-15 HL582-10MCA SW2000-10W
23			Pin Collar Washer Setscrew	HLT265TB-10-13-54 HL582-10MCA SW2000-10W NAS1081C06A3
24			Pin Collar	HLT313DL-8-11 HL570-8MC
25			Pin Collar Setscrew	HLT265TB8-11-41 HL570-8MC NAS1081C06A3
26			Screw Gang Channel Rivet	NAS664V13HT G51061-4-10 MS20426AD3
27			Pin Collar Washer Setscrew	HL265TB8-10-39 HL582-8MCA SW2000-8W NAS1081C06A3
28			Pin Collar Setscrew	HLT265TB12-13-53 HL570-12MC NAS1081C06A3
29	 		Pin Collar Pin Collar Washer	HLT313DL-10-10 HL570-10MC HLT313DL-10-10 NAS1291C5 AN960JD516L
30	 		Pin Collar Washer Pin Collar	HLT313DL-8-17 HL582-8MCA SW2000-8W HLT313DL-8-17 VN376D4W
31			Screw Plate Nut Spacer Spacer	HT4041-7-17-8 F50339-7-1 74A110866-3271 74A110866-3601
32			Screw Gang Channel	HT4041-7-17-9 74B110051-2007

Figure 1. Skin (74A110601) Fasteners (Sheet 7)

IDX NO.	EFT		Nomenclature	Part Number
33			Screw Gang Channel	HT4020-7-17-9A 74B110051-2007
34	<div>8</div> <div>9</div>		Pin Collar Setscrew Pin Collar Washer Setscrew	HLT265TB10-17-60 HL570-10MC NAS1081C06A3 HLT265TB10-17-60 TLN1023CD3-5N TLN1023CD3L-5W NAS1081C06A3
35			Pin Collar	HLT53DL-10-14 HL570-10MC
36	<div>12</div>		Pin Collar Washer	HLT265TB10-15 HL582-10MCA SW2000-10W
37	<div>15</div> <div>16</div>		Pin Collar Washer Pin Collar Washer	HLT313DL-8-11 TLN1023CD3-4N TLN1023CD3L4W HLT313DL-10-11 TLN1023CD3-5N TLN1023CD3L5W
38			Screw	HT4020-7-24A
39			Pin Collar Washer	HLT53DL-12-13 TLN1002CD3-6 TLN1023CD3L-6
40			Pin Collar Washer	HLT53DL-10-11 TLN1002CD3-5 TLN1023CD3L-5
41	<div>10</div> <div>11</div>		Bolt Gang Channel Rivet Bolt Gang Channel Rivet	HT4020-6-19A G49439E6-1-1 CSR904B-4-10 HT4020-6-21A G49439E6-1-1 CSR904B-4-10
42			Screw	HT4020-7-24A
43	<div>10</div> <div>11</div>		Pin Collar Washer Pin Collar Washer	HLT313DL-10-13 HL582-10-MC SW2000-10W HLT313DL-10-14 HL582-10-MC SSW2000-10W

Figure 1. Skin (74A110601) Fasteners (Sheet 8)



IDX NO.	EFT		Nomenclature	Part Number
44	 		Pin Collar Washer Pin Washer Nut	HLT53DL-10-12 TLN1002CD3-5 AN960JD516L HLT53DL-10-12 AN960JD516L NAS1291C5M
45			Pin Collar Washer	HLT313DL-10-12 TLN1002CD3-5 TLN1023CD3L-5
46			Pin Collar Washer	HLT53DL-12-7 TLN1002CD3-6 TLN1023CD3L-6
47			Pin Collar Washer Setscrew	HLT265TB12-8-23 TLN1002CD3-6 TLN1023CD3L-6 NAS1081C06A3
48			Pin Collar Washer	HLT53DL-12-8 TLN1002CD3-6 TLN1023CD3L-6
49			Pin Collar Washer	HLT53DL-12-9 TLN1002CD3-6 TLN1023CD3L-6
50			Screw Plate Nut	HT271A5-12AS F50403-5-1
51			Screw Plate Nut	HT271A5-13AS F50403-5-1
52			Screw Gang Channel	HT271A5-10AS G50344-5-1-16
53			Pin Collar Washer	HLT53DL-10-15 TLN1002CD-3-5 AN960JD516L
54			Pin Collar Washer Setscrew	HLT265TB10-15-47 SW2000-10A SW2000-10W NAS1081C06A3
55			Pin Collar Setscrew	HLT265TB8-15-48 HL570-8MC NAS1081C06A3
56			Pin Collar	HLT313DL-8-12 HL570-8MC

Figure 1. Skin (74A110601) Fasteners (Sheet 9)

IDX NO.	EFT		Nomenclature	Part Number
57			Pin Collar	HLT313DL-8-14 HL570-8MC
58			Pin Collar Setscrew	HLT265TB8-14-6 HL570-8MC NAS1081C06A3
59			Pin Collar Setscrew	HLT265TB8-13-54 HL570-8MC NAS1081C06A3
60			Pin Collar	HLT313DL-12-17 HL570-12MC
61			Pin Collar Setscrew	HLT265TB10-14-43 HL570-10MC NAS1081C06A3
62			Pin Collar Setscrew	HLT265TB12-17-54 HL570-12MC NAS1081C06A3
63			Pin Collar Washer Setscrew	HLT265TB12-21-58 HL582-12MCA SW2000-12W NAS1081C06A3
64			Pin Collar Washer Setscrew	HLT265TB12-20-59 HL582-12MCA SW2000-12W NAS1081C06A3
65			Pin Collar	HLT313DL-10-13 HL570-10MC
66			Pin Collar Setscrew	HLT265TB8-11-41 HL570-8MC NAS1081C06A3
67	<div>13</div> <div>14</div>		Pin Collar Setscrew Pin Collar	HLT265TB8-12-45 HL570-8MC NAS1081C06A3 HLT313DL-8-12 HL570-8MC
68	<div>13</div> <div>14</div>		Pin Collar Setscrew Pin Collar	HLT265TB10-14-43 HL570-10MC NAS1081C06A3 HLT313DL-10-14 HL570-10MC
69			Pin Collar Shim	HLT53DL-10-14 HL570-10MC 74A110866-3637

Figure 1. Skin (74A110601) Fasteners (Sheet 10)

IDX NO.	EFT		Nomenclature	Part Number
70			Pin Collar	HLT313DL-10-12 HL570-10MC
71			Pin Collar Setscrew	HLT265TB10-12-40 HL570-10MC NAS1081C06A3
72			Pin Collar	HLT313DL-10-15 HL570-10MC
73			Pin Collar Setscrew	HLT265TB10-13-40 HL570-10MC NAS1081C06A3
74			Pin Collar Shim Shim	HLT313DL-10-13 HL570-10MC 74A110866-2621 74A110866-2623
75			Pin Collar	HLT313DL-10-11 HL570-10MC
76			Pin Collar Setscrew	HLT265TB10-11-39 HL570-10MC NAS1081C06A3
77			Pin Collar Washer	HLT313DL-10-10 TLN1023CD3-5N TLN1023D3L5W
78			Pin Collar Setscrew	HLT53DL12-15 TLN1023CD3-6N TLN103D3L6W
79			Pin Collar Setscrew	HT265TB8-12-34 HL570-8MC NAS1081C06A3
80	<div>5</div> <div>6</div>		Pin Collar Washer Pin Nut Washer	HLT53DL-12-14 TLN1002CD3-6 AN960JD616L HLT53DL-12-15 NAS1291CM AN960JD616L
81			Pin Collar Washer	HLT313DL-8-9 TLN1002CD3-4 AN906JD516L
82			Pin Collar Washer Setscrew	HLT265TB8-10-35 HL582-8MCA SW2000-8W NAS1081C06A3

Figure 1. Skin (74A110601) Fasteners (Sheet 11)



IDX NO.	EFT		Nomenclature	Part Number
83	 		Pin Collar Pin Collar Washer	HLT313DL-8-17 HL570-8MC HLT313DL-8-17 NAS1291C-8 AN960JD516L
84			Pin Collar Setscrew	HLT265TB8-17-57 HL570-8MC NAS1081C06A3
85			Screw Gang Channel Spacer	HT4020-7-17A 74B110051-2007 74A110866-3151
86			Screw Gang Channel Spacer	HT4024L7-17 74B110051-2007 74A110866-3151
87			Screw Gang Channel Spacer	HT4020-7-17A 74B110051-2007 74A110866-3245
88			Screw Gang Channel Spacer	HT4024L7-17 74B110051-2007 74A110866-3245
89			Screw Gang Channel Spacer	HT4020-7-17A 74B110051-2007 74A110866-3263
90			Screw Gang Channel Spacer	HT4024L7-17 74B110051-2007 74A110866-3263
91			Screw Plate Nut	HT271A5-17 MS21061L5
92			Screw Gang Channel	HT271A5-10 G50344-5-1-12
93			Pin Collar Washer Setscrew	HLT265TB10-11-43 TLN1023CD3-5 TLN1023CD3L5W NAS1081C06A3
94			Pin Collar Washer	HLT313DL-10-14 SW2000-10A SW2000-10W
95			Pin Collar Washer Setscrew	HLT265TB10-14-47 SW2000-10A SW2000-10W NAS1081C06A3

Figure 1. Skin (74A110601) Fasteners (Sheet 12)

IDX NO.	EFT		Nomenclature	Part Number
96			Pin Collar Setscrew	HLT265TB8-14-47 HL570-8MC NAS1081C06A3
97			Pin Collar Setscrew	HLT265TB8-14-62 HL570-8MC NAS1081C06A3
98			Pin Collar	HLT313DL-8-13 HL570-8MC
99			Pin Collar Setscrew	HLT265TB10-13-54 HL570-10MC NAS1081C06A3
100			Pin Collar Setscrew	HLT265TB10-16-54 HL570-10MC NAS1081C06A3
101			Pin Collar Setscrew	HLT265TB10-12-54 HL570-10MC NAS1081C06A3
102			Pin Collar	HLT313DL-8-16 HL570-8MC
103			Pin Collar Setscrew	HLT265B10-18-72 HL570-10MC NAS1081C06A3
104			Pin Collar Setscrew	HLT265TB8-13-54 HL570-8MC NAS1081C06A3
105			Pin Collar	HLT53DL-8-23 HL570-8MC
106			Screw Gang Channel Rivet	NAS664V16HT G51061-4-9 MS20426AD3
107			Pin Collar Washer	HLT53DL-8-17 HL582-8MCA SW2000-8W
108			Pin Collar	HLT53DL-8-22 HL570-8MC
109			Pin Collar Setscrew	HLT265TB10-16-54 HL570-10MC NAS1081C06A3
110			Pin Collar Setscrew	HLT265TB8-13-54 HL570-8MC NAS1081C06A3

Figure 1. Skin (74A110601) Fasteners (Sheet 13)

IDX NO.	EFT		Nomenclature	Part Number
111			Pin Collar Setscrew	HLT265TB10-17-65 HL570-10MC NAS1081C06A3
112			Pin Collar	HLT313DL-8-15 HL570-8MC
113			Pin Collar	HLT265TB8-17 HL570-8MC
114			Pin Collar Setscrew	HLT265TB8-10-39 HL570-8MC NAS1081C06A3
115			Pin Collar	HLT313DL-10-10 HL570-10MC
116			Pin Collar Setscrew	HLT265TB8-10-33 HL570-8MC NAS1081C06A3
117			Pin Collar Washer Setscrew	HLT265TB10-14-47 HLT582-10MCA SW2000-10W NAS1081C06A3
118			Pin Collar	HLT313DL-10-16 HL570-10MC
119			Pin Collar Washer	HLT313DL-10-10 TLN1002CD3-5 AN960JD516L
120			Pin Collar Setscrew Shim Shim	HLT265TB8-12-33 HL570-8MC NAS1081C06A3 74A110866-2617 74A110866-2619
121			Screw Gang Channel Rivet	HT271A4-12 G51061-4-12 MS20426AD3
122			Pin Collar Shim Shim	HLT313DL-8-10 HL570-8MC 74A110866-2617 74A110866-2619
123			Screw Gang Channel Spacer	HT4020-7-13 74B110051-2013 74A110866-3247

Figure 1. Skin (74A110601) Fasteners (Sheet 14)

IDX NO.	EFT		Nomenclature	Part Number
124			Screw Gang Channel Spacer	HT4024L7-13 74B110051-2013 74A110866-3247
125			Screw Spacer Spacer Gang Channel	HT4020-7-13A 74A110866-3242 74A110866-3241 74B110051-2013
126			Screw Spacer Spacer Gang Channel	HT4024L7-13 74A110866-3242 74A110866-3241 74B110051-2013
127			Screw Plate Nut Rivet	HT271A5-14 MS21060L5 MS20426AD4
128			Screw Gang Channel Spacer	HT4020-7-16A 74B110051-2013 74A110866-3249
129			Screw Gang Channel Spacer	HT4024L7-17 74B110051-2013 74A110866-3249
130			Screw Gang Channel Spacer	HT4020-7-13A 74B110051-2013 74A110866-3241, -3242
131			Screw Gang Channel Spacer Spacer	HT4020-7-13A 74B110051-2007 74A110866-3251 74A110866-3241
132			Screw Plate Nut	HT271A5-14 MS21060L5
133			Screw Gang Channel	HT271A4-11 G51061-4-11
134			Screw Gang Channel Rivet	HT271A4-11 G51061-3-14 MS20470AD3
135			Pin Collar Washer Setscrew	HLT265TB8-12-16 HL582-8MC SW2000-8W NAS1081C06A3
136			Pin Collar Setscrew	HLT265TB8-11-46 HL570-8MC NAS1081C06A3

Figure 1. Skin (74A110601) Fasteners (Sheet 15)

IDX NO.	EFT		Nomenclature	Part Number
137			Pin Collar Setscrew	HLT265TB8-12-45 HL570-8MC NAS1081C06A3
138			Pin Collar Washer	HLT313DL-8-16 HL582-8MCA SW2000-8W
139			Pin Collar Washer	HLT313DL-10-19 TLN1002CD3-5 AN960JD516L
140			Pin Collar Setscrew	HLT265TB8-17-79 HL570-8MC NAS1081C06A3
141			Pin Collar Setscrew	HLT265TB10-19-80 HL570-10MC NAS1081C06A3
142			Pin Collar Shim Shim	HLT313DL-10-19 HL570-10MC 74A110866-2621 74A110866-2623
143			Pin Collar Shim Shim	HLT313DL-10-2 HL570-10MC 74A110866-2621 74A110866-2623
144			Pin Collar Setscrew	HLT265TB8-14-61 HL570-8MC NAS1081C06A3
145			Screw Gang Channel	HT271A4-19 G51061-4-14
146			Screw Gang Channel	HT271A4-9 G51061-4-12
147			Screw Gang Channel Rivet Shim Shim	HT271A5-14 G50344-5-1-14 MS20426AD4 74A110866-2621 74A110866-2623
148			Pin Collar Washer Setscrew	HLT265TB8-14-47 HL582-8MCA SW2000-8W NAS1081C06A3

Figure 1. Skin (74A110601) Fasteners (Sheet 16)

IDX NO.	EFT		Nomenclature	Part Number
149			Pin Collar Washer Setscrew	HT265TB8-14-48 HL582-8MCA SW2000-8W NAS1081C06A3
150			Screw Plate Nut	HT271A5-10 F50403-5-1
151			Screw Gang Channel	HT271A5-11 G50344-5-1-14
152			Pin Collar Washer	HLT53DL-10-15 TLN1002CD3-5 AN960JD516L
153			Pin Collar Washer Setscrew	HLT265TB10-14-47 SW2000-10A SW2000-10W NAS1081C06A3
154			Pin Collar Washer Shim Shim	HLT53DL-10-14 TLN1002CD3-5 AN960JD516L 74A110866-3065 74A110866-3067
155			Pin Collar Washer Shim Shim	HLT53DL-10-13 TLN1002CD3-5 AN960JD516L 74A110866-3065 74A110866-3067
156			Pin Collar Washer	HLT53DL-12-7 TLN1023CD3-6N TLN1023CD3L-6W
157			Pin Collar Washer Setscrew	HLT265TB12-8-23 TLN1023CD3-6N TLN1023CD3L6W NAS1081C06A3
158			Pin Collar Washer	HLT53DL-12-8 TLN1023CD3-6N TLN1023CD3L6W
159			Pin Collar Washer	HLT53DL-12-9 TLN1023CD3-6N TLN1023CD3L6W
160			Pin Collar Washer	HLT53DL-12-14 TLN1023CD3-6N TLN1023CD3L6W

Figure 1. Skin (74A110601) Fasteners (Sheet 17)

IDX NO.	EFT		Nomenclature	Part Number
161			Screw Plate Nut	HT271A5-11 MS21060L5
162			Screw Gang Channel	HT271A5-11 G50344-5-1-12
163			Screw Plate Nut	HT271A5-10 F50403-5-1
164			Screw Plate Nut	HT271A5-10 MS21060L5
165			Pin Collar Setscrew	HLT265TB8-17-79 HL570-8MC NAS1081C06A3
166			Screw Gang Channel Spacer Spacer	HT4024L7-13 74B110051-2013 74A110866-3241 74A110866-3242
167			Screw Gang Channel Spacer	HT4024L7-13 74B110051-2013 74A110866-3241, -3242
168			Screw Gang Channel Spacer	HT4020-7-14 74B110051-2013 74A110866-3247
169			Screw Gang Channel Spacer	HT4024L7-14 74B110051-2013 74A110866-3247
170			Screw Gang Channel Spacer	HT4020-7-17 74B110051-2015 74A110866-3263
171			Screw Gang Channel Spacer	HT4024L7-17 74B110051-2015 74A110866-3263
172			Pin Collar Setscrew	HLT265TB8-17-60 HL570-8MC NAS1081C06A3
173			Pin Collar Setscrew	HLT265TB8-9-33 HL570-8MC NAS1081C06A3
174			Pin Collar Washer	HLT313DL-8-9 TLN1002CD3-4 AN960JD516L

Figure 1. Skin (74A110601) Fasteners (Sheet 18)

IDX NO.	EFT		Nomenclature	Part Number
175			Pin Collar Setscrew	HLT265TB8-11-33 HL570-8MC NAS1081C06A3
176			Pin Collar Setscrew	HLT265TB8-11-41 HL570-8MC NAS1081C06A3
177			Pin Collar Setscrew	HLT265TB8-12-52 HL570-8MC NAS1081C06A3
178			Pin Collar Setscrew	HLT265TB8-17-81 HL570-8MC NAS1081C06A3
179			Pin Collar	HLT313DL-10-18 HL570-10MC
180			Pin Collar Washer Setscrew	HLT265TB10-18-81 TLN1002CD3-5 AN960JD516L NAS1081C06A3
181			Pin Collar	HLT313DL-10-22 HL570-10MC
182			Pin Collar Washer Setscrew	HLT265TB8-16-73 L582-8MCA SW2000-8W NAS1081C06A3
183			Pin Collar Setscrew	HLT265TB8-14-59 HL570-8MC NAS1081C06A3
184			Pin Collar Setscrew	HLT265TB8-14-49 HL570-8MC NAS1081C06A3
185			Pin Collar Washer Setscrew	HLT265TB10-11-43 TLN1023CD3-5N TLN1023CD3L5W NAS1081C06A3
186			Pin Collar Washer	HLT313DL-10-14 SW2000-10A SW2000-10W
187			Pin Collar Washer Setscrew	HLT265TB10-14-47 SW2000-10A SW2000-10W NAS1081C06A3

Figure 1. Skin (74A110601) Fasteners (Sheet 19)

IDX NO.	EFT		Nomenclature	Part Number
188			Screw Gang Channel Shim Shim	HT271A5-12 G50344-5-1-14 74A110866-2621 74A110866-2623
189			Screw Gang Channel	HT271A4-13 74B110052-2005
190			Screw Plate Nut	HT271A4-10 MS21061L4
191			Screw Gang Channel Shim Shim Rivet	HT271A4-15 G51061-4-16 74A110866-2617 74A110866-2619 MS20426AD3
192			Pin Collar Washer	HLT53DL-12-7 TLN1023CD3-6N TLN1023CD3L6W
193			Pin Collar Washer Setscrew	HLT265TB-12-8-23 TLN1023CD3-6N TLN1023CD3L6W NAS1081C0A3
194			Pin Collar Washer	HLT53LD-12-8 TLN1023CD3-6N TLN1023CD3L6W
195			Pin Collar Washer	HLT53LD-12-9 TLN1023CD3-6N TLN1023CD3L6W
196			Pin Collar Washer	HLT53DL-12-13 TLN1023CD3-6N TLN1023CD3L6W
197			Pin Collar Washer Setscrew Spacer Spacer	HLT265TB-10-12-40 TLN1023CD3-5N TLN1023CD3L5W NAS1081C06A3 74A110866-3073 74A110866-3075
198			Pin Collar Washer Spacer Spacer	HLT53DL-10-13 TLN1002CD3-5 AN960JD516L 74A110866-3073 74A110866-3075
199			Screw Plate Nut	HT271A5-12 MS21060L5

Figure 1. Skin (74A110601) Fasteners (Sheet 20)

IDX NO.	EFT		Nomenclature	Part Number
200			Screw Gang Channel	HT271A5-12 G50344-5-1-10
201			Screw Plate Nut	HT271A5-15 MS21060L5
202			Pin Collar	HLT313DL-8-18 HL570-8MC
203			Screw Gang Channel Spacer	HT4024L7-14 74B110051-2007 74A110866-3251
204			Screw Gang Channel Spacer	HT4020-7-17A 74B110051-2015 74A110866-3263
205			Screw Gang Channel Spacer	HT4041-7-17-9 74B110051-2015 74A110866-3263
206			Pin Collar Washer	HLT313DL-8-15 TLN1023CD3-4N TLN1023CD3L4W
207			Pin Collar Washer	HLT313DL-8-11 TLN1023CD3-4N TLN1023CD3L4W
208			Pin Collar Washer	HLT313DL-8-12 TLN1023CD3-4N TLN1023CD3L4W
209			Pin Collar Washer Setscrew	HLT265TB-8-12-50 TLN1023CD3-4N TLN1023CD3L4W NAS1081C06A3
210			Pin Collar Washer	HLT313DL-10-16 TLN1023CD3-5N TLN1023CD3L5W
211			Pin Collar Washer	HLT313DL-10-16 HL582-10MCA SW2000-10W
212			Pin Collar Washer	HLT313DL-10-13 HL582-10MCA SW2000-10W
213			Pin Collar Washer Setscrew	HLT265TB8-14-64 HL582-8MCA SW2000-8W NAS1081C06A3

Figure 1. Skin (74A110601) Fasteners (Sheet 21)










IDX NO.	EFT		Nomenclature	Part Number
214			Pin Collar Setscrew	HLT265TB8-18-89 HL570-8MC NAS1081C06A3
215			Pin Collar Setscrew	HLT265TB8-14-64 HL570-8MC NAS1081C06A3
216			Pin Collar Washer	HLT313DL-8-15 HL582-8MCA SW2000-8W
217	 		Pin Collar Washer Setscrew Pin Collar Washer Setscrew	HLT265TB8-17-79 HL582-8MCA SW2000-8W NAS1081C06A3 HLT265TB8-18-79 HL582-8MCA SW2000-8W NAS1081C06A3
218	  		Pin Collar Washer Pin Collar Washer Pin Nut	HLT313DL-8-19 HL582-8MCA SW2000-8W HLT313DL-8-20 HL582-8MCA SW2000-8W HLT313DL-8-20 VN376D8W
219	 		Pin Collar Washer Setscrew Pin Collar Washer Setscrew	HLT265TB-8-10-35 TLN1023CD3-4N TLN1023CD3L4W NAS1081C06A3 HLT265TB-10-10-35 TLN1034CD3-5N TLN1023CD3L4W NAS1081C06A3
220	 		Pin Collar Setscrew Pin Collar Washer Setscrew	HLT265TB10-21-109 HL570-10MC NAS1081C06A3 HLT265TB10-21-109 TLN1023CD3-5N TLN1023CD3L5W NAS1081C06A3
221			Screw Plate Nut	HT271A5-17 F50403-5-1

Figure 1. Skin (74A110601) Fasteners (Sheet 22)

IDX NO.	EFT		Nomenclature	Part Number
222			Pin Collar Shim Shim	HLT313DL-10-23 HL570-10MC 74A110866-2621 74A110866-2623
223			Screw Plate Nut	HT271A5-22 MS21060L5
224			Screw Gang Channel	HT271A5-19 G50344-5-1-12
225			Pin Collar Setscrew	HLT265TB10-20-88 HL570-10MC NAS1081C06A3
226			Pin Collar	HLT313DL-10-21 HL570-10MC
227			Pin Collar Setscrew	HLT265TB10-20-107 HL570-10MC NAS1081C06A3
228			Pin Collar Setscrew	HLT265TB10-20-88 HL570-10MC NAS1081C06A3
229			Pin Collar	HLT313DL-8-9 HL570-8MC
230			Screw Shim	HT271A5-21 74A110866-3777
231			Screw Plate Nut	HT271A5-17 MS21060LS
232			Screw Gang Channel	HT271A5-20 G50344-5-1-12
233	<div>8</div> <div>9</div>		Pin Collar Setscrew Pin Collar Washer Setscrew	HLT265TB10-20-107 HL570-10MC NAS1081C06A3 HLT265TB-10-20-107 TLN1023CD3-5N TLN1023CD3L5W NAS1081C06A3
234	<div>17</div> <div>19</div> <div>9</div>		Pin Collar Pin Collar Pin Collar Washer	HLT313DL-8-21 HL570-8MC HLT313DL-8-22 HL570-8MC HLT313DL-8-22 NAS1291C-4 AN960JD515L

Figure 1. Skin (74A110601) Fasteners (Sheet 23)

IDX NO.	EFT		Nomenclature	Part Number
235	<div>17</div> <div>18</div>		Pin Collar Washer Setscrew Pin Collar Washer Setscrew	HLT265TB8-19-86 HL582-8MCA SW2000-8W NAS1081C06A3 HLT265TB8-20-86 HL582-8MCA SW2000-8W NAS1081C06A3
236			Pin Collar Washer	HLT313DL-8-18 HL582-8MCA SW2000-8W
237			Pin Collar Washer	HLT313DL-8-16 HL582-8MCA SW2000-8W
238			Pin Collar	HLT313DL-8-12 HL570-8MC
239			Pin Collar Washer Setscrew	HLT265TB8-13-54 HL582-8MCA SW2000-8W NAS1081C06A3
240	<div>8</div> <div>1</div> <div>2</div>		Bolt Plate Nut Rivet Bolt Gang Channel Rivet Bolt Plate Nut Rivet	HT4025L7-22 F50339-7-1 MS20426AD4 HT4025L7-22 74B110052-2017 MS20426AD4 HT4025L7-22 F50339-7-2 MS20426AD4
241			Screw Plate Nut	HT4025L7-21 F50339-7-1
242			Pin Collar Setscrew	HLT265TB8-15-56 HL570-8MC NAS1081C06A3
243			Pin Collar	HLT313DL-10-14 HL570-10MC
244			Pin Collar Washer Setscrew	HLT265TB10-18-87 TLN1002CD3-5 AN960JD516L NAS1081C06A3
245			Screw Gang Channel	HT271A4-15 G51061-4-10

Figure 1. Skin (74A110601) Fasteners (Sheet 24)

IDX NO.	EFT		Nomenclature	Part Number
246			Screw Gang Channel	HT271A4-14 G51061-4-10
247			Pin Collar Setscrew	HLT265TB8-14-64 HL570-8MC NAS1081C06A3
248	<div>17</div> <div>19</div> <div>9</div>		Pin Collar Setscrew Retainer Pin Collar Setscrew Retainer Pin Collar Washer Setscrew Retainer	HLT265TB10-16-83 HL570-10MC NAS1081C06A3 74A110976-2007, -2008 HLT265TB10-17-83 HL570-10MC NAS1081C06A3 74A110976-2007, -2008 HLT265TB10-17-83 TLN1023CD3-5N TLN1023CD35W NAS1081C06A3 74A110976-2007, -2008
249	<div>17</div> <div>18</div>		Pin Collar Setscrew Retainer Pin Collar Setscrew Retainer	HLT265TB10-17-65 HL570-10MC NAS1081C06A3 74A110976-2007, -2008 HLT265TB10-18-65 HL570-10MC NAS1081C06A3 74A110976-2007, -2008
250			Screw Plate Nut	HT271A5-11 F50405-5
251			Screw Plate Nut Doubler	HT271A5-9 F50405-5 74A110825-2011, -2012
252			Pin Collar	HLT313DL-10-17 HL570-10MC
253			Pin Collar Washer Shim	HLT313DL-10-19 TLN1002CD3-5 AN960JD516L 74A110866-2621, -2623
254			Screw Gang Channel	HT271A4-10 G51061-4-12
255			Pin Collar Setscrew Retainer	HLT265TB10-17-86 HL570-10MC NAS1081C06A3 74A110976-2005, -2006

Figure 1. Skin (74A110601) Fasteners (Sheet 25)

IDX NO.	EFT		Nomenclature	Part Number
256	<div>17</div> <div>19</div> <div>9</div>		Pin Collar Setscrew Pin Collar Setscrew Pin Collar Washer Setscrew	HLT265TB10-16-83 HL570-10MC NAS1081C06A3 HLT265TB10-17-83 HL570-10MC NAS1081C06A3 HLT265TB10-17-65 TLN1023CD3-5N TLN1023CD3L5W NAS1081C06A3
257			Screw Gang Channel Spacer	HT271A4-12 G51061-4-13 74A110866-2441, -2442
258	<div>8</div> <div>9</div>		Pin Collar Washer Pin Collar Washer	HLT313DL-10-15 HL582-10MCA SW2000-10W HLT313DL-5-15 TLN1023CD3-5N TLN1023CD3L5W
259			Pin Collar Setscrew Shim Shim	HLT265TB10-15-76 HL570-10MC NAS1081C06A3 74A110866-2621 74A110866-2623
260	<div>8</div> <div>9</div>		Pin Collar Pin Collar Washer	HLT313DL-10-12 HL570-10MC HLT313DL-10-12 NAS1291C-5 AN960JD515L
261	<div>8</div> <div>9</div>		Pin Collar Washer Washer Setscrew Pin Collar Washer Setscrew	HLT265TB10-13-54 HL582-10MCA SW2000-10W NAS1401-5D3 NAS1081C06A3 HLT265TB10-13-54 TLN1023CDC-5N TLN1023CD3L5W NAS1081C06A3
262	<div>8</div> <div>9</div>		Pin Collar Washer Pin Collar Washer	HLT313DL-10-17 HL582-10MCA SW2000-10W HLT313DL-5-17 TLN1023CDC-5N TLN1023CD3L5W

Figure 1. Skin (74A110601) Fasteners (Sheet 26)

IDX NO.	EFT		Nomenclature	Part Number
263	<div>3</div> <div>4</div>		Screw Plate Nut Screw Plate Nut Spacer	HT271A5-17 MS21061L5 HT271A5-18 MS21061L5 74A110866-3715, -3716
264	<div>17</div> <div>18</div>		Pin Collar Setscrew Pin Collar Setscrew	HLT265TB5-17-86 HL570-10MC NAS1081C06A3 HLT265TB5-18-87 HL57-10MC NAS1081C06A3
265			Injection Plug Screw	74A110949-2001 MS24693C26
266			Bolt Gang Channel Spacer	HT4041-7-17-9 74B110051-2007 74A110866-3263
267	<div>11</div> <div>12</div>		Pin Collar Pin Collar Washer	HLT313DL-8-10 HL570-10MC HLT313DL-8-10 NAS1291C-4 AN960JD515L
268			Bolt	HT4020-7
269			Bolt Gang Channel Spacer	HT4025L7-18 G18421JL2-7 74A110866-3259
270	<div>7</div>		Pin Collar Washer Setscrew	HLT265TB10-15-70 HL582-10MCA SW2000-10W NAS1081C06A3
271	<div>7</div>		Pin Collar Washer	HLT313DL-8-12 HL582-8MCA SW2000-8W
272	<div>8</div> <div>9</div>		Pin Collar Washer Pin Collar Washer Setscrew	HLT313DL-8-13 HL582-8MCA SW2000-8W HLT265TB-8-13-54 HL582-8MCA SW2000-8W NAS1081C06A3
273	<div>7</div>		Pin Collar Washer	HLT313DL-8-13 HL582-8MCA SW2000-8W

Figure 1. Skin (74A110601) Fasteners (Sheet 27)














IDX NO.	EFT		Nomenclature	Part Number
274			Pin Collar Washer	HLT313DL-8-14 HL582-8MCA SW2000-8W
275	 		Pin Collar Washer Setscrew Pin Collar Washer	HLT265TB8-15-70 HL582-8MCA SW2000-8W NAS1081C06A3 HLT313DL-8-15 HL582-8MCA SW2000-8W
276			Pin Collar Washer Setscrew	HLT265TB8-10-15-69 HL582-10MCA SW2000-10W NAS1081C06A3
277			Bolt	HT4025L7-18
278			Bolt Spacer Gang Channel	HT4020-7-18A 74A110866-3259 G18421JL2-7
279			Pin Collar Washer	HLT313DL-8-15 HL582-8MCA SW2000-8W
280			Pin Collar Washer	HLT313DL-8-14 HL582-8MCA SW2000-8W
281			Pin Collar Washer	HLT313DL-8-13 HL582-8MCA SW2000-8W
282			Pin Collar Washer Setscrew	HLT265TB8-13-54 HL582-8MCA SW2000-8W NAS1081C06A3
283			Pin Collar Washer	HLT313DL-8-12 HL582-8MCA SW2000-8W
284			Pin Collar Washer	HLT313DL-10-14 HL582-10MCA SW2000-8W
285			Pin Collar Washer Setscrew	HLT265TB10-12-54 HL582-8MCA SW2000-8W NAS1081C06A3

Figure 1. Skin (74A110601) Fasteners (Sheet 28)



















IDX NO.	EFT		Nomenclature	Part Number
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287	 		Pin Collar Pin Collar Washer	HLT313DL-8-10 HL570-8MC HLT313DL-8-10 NAS1291C AN960JD515L
288			Pin Collar Setscrew	HLT265TB8-10-33 HL570-8MC NAS1081C06A3
289	 		Pin Collar Setscrew Pin Collar	HLT265TB8-10-35 HL570-8M NAS1081C06A3 HLT265TB8-10-35 VN376D-8W
290	 		Pin Collar Washer Pin Collar	HLT313DL-8-10 HL582-8MCA SW2000-8W HLT313DL-8-10 VN376D-8W
291	 		Pin Collar Washer Pin Collar	HLT313DL-8-11 HL582-8MCA SW2000-8 HLT313DL-8-11 VN376D-8W
292	 		Pin Collar Washer Pin Collar	HLT313DL-8-12 HL582-8MCA SW2000-8 HLT313DL-8-12 VN376D-8W
293	 	  	Pin Collar Washer Pin Collar Blind Fastener	HLT313DL-8-13 HL586-8MCA SW2000-8 HLT313DL-8-13 VN376D-8W NAS1672-5L12
294	 		Pin Collar Setscrew Pin Collar	HLT265TB8-13-45 HL570-8MC NAS1081C06A3 HLT265TB8-13-45 VN376D-8W
295			Pin Collar	HLT313DL-4-17 HL570-8MC

Figure 1. Skin (74A110601) Fasteners (Sheet 29)

IDX NO.	EFT		Nomenclature	Part Number
296			Pin Collar	HLT313DL-8-12 HL570-8MC
297			Pin Collar Washer	HLT53DL-10-14 TLN1002CD3-5 AN960JD
298			Pin Collar Washer	HLT53DL-10-11 TLN1023CD3-5N TLN1023CD3L-5W

LEGEND
























-  1 161715 thru 162881.
-  2 162882 and Up.
-  3 161353 thru 162444.
-  4 162445 and Up.
-  5 Left Side, 161353 thru 161714. Right side, 161353 thru 161713.
-  6 Left Side, 161715 and Up. Right side, 161714 and Up.
-  7 Left Side, 161353 thru 161977, 161987. Right side, 161353 thru 161977.
-  8 161353 thru 161714.
-  9 161715 and Up.
-  10 161978 thru 161986, 162394 thru 162431.
-  11 162432 and Up.
-  12 161978 thru 161986, 162394 and Up.
-  13 161715 thru 163118.
-  14 163119 and Up.
-  15 161353 thru 162909.
-  16 163092 and Up.
-  17 161353 thru 161528.
-  18 161702 and Up.
-  19 161702 thru 161714.
-  20 Before IAFC 140.
-  21 After IAFC 140.
-  22 Bushing is bonded into composite skin.
-  23 Bushing is forcemated into substructure.

Figure 1. Skin (74A110601) Fasteners (Sheet 30)

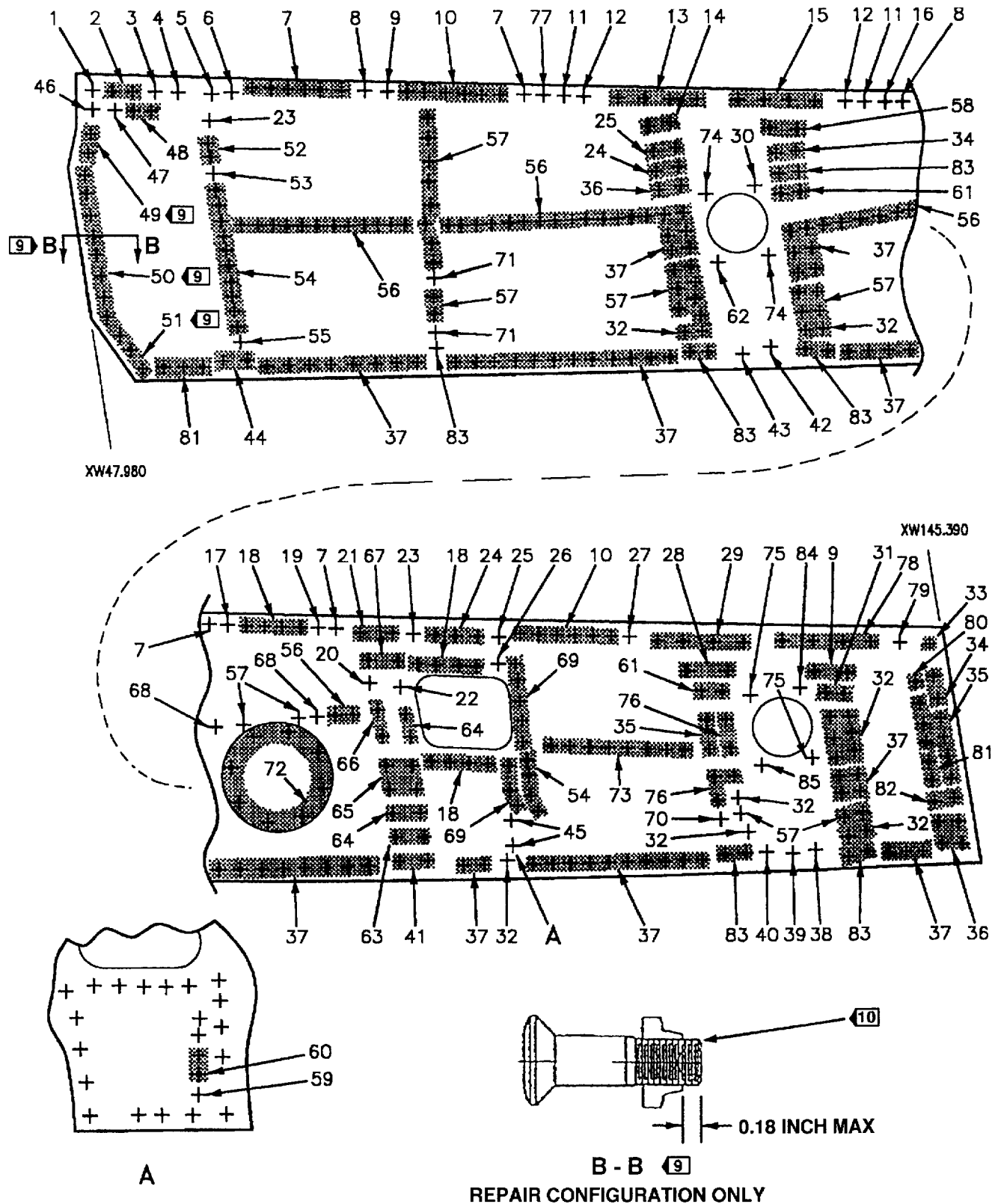


Figure 2. Skin (74A110954) Fasteners (Sheet 1)

IDX NO.	EFT		Nomenclature	Part Number
1	<div>5</div> <div>6</div>		Pin Collar Washer Shim Shim Pin Collar Washer Shim Shim	HLT313DL-12-10 TLN1023CD3-6N TLN1023CD3L6W 74A110866-3555 74A110866-3557 HTL530L-10-11 TLN1023CD3-5N TLN1023CD3L-5W 74A110866-3555 74A110866-3557
2			Pin Collar Washer	HLT313DL-10-12 TLN1023CD3-5N TLN1023CD3L5W
3			Pin Collar Washer	HLT313DL-10-8 TLN1023CD3-5N TLN1023CD3L5W
4			Pin Collar Washer	HLT313DL-12-15 TLN1023CD3-6N TLN1023CD3L6W
5			Pin Collar Washer Shim Shim	HLT313DL-10-15 HL582-10MCA SW2000-10W 74A110866-3559 74A110866-3561
6			Pin Collar Washer	HLT313DL-10-13 HL582-10MCA SW2000-10W
7			Pin Collar Washer	HLT313DL-8-13 HL582-8MCA SW2000-8W
8			Pin Collar Washer	HLT313DL-8-14 HL582-8MCA SW2000-8W
9			Pin Collar	HLT313DL-8-14 HL570-8MC
10			Pin Collar	HLT313DL-8-13 HL570-8MC
11			Pin Collar Washer	HLT313DL-8-17 HL582-8MCA SW2000-8W

Figure 2. Skin (74A110954) Fasteners (Sheet 2)

IDX NO.	EFT		Nomenclature	Part Number
12	<div>3</div> <div>4</div>		Pin Collar Washer Pin Collar	HLT313DL-8-18 HL582-8MCA SW2000-8W HLT53DL-8 HL57D-8MC
13	<div>3</div> <div>4</div>		Pin Collar Shim Shim Pin Collar Washer Shim Shim	HLT313DL-10-21 HL570-10MC 74A110866-2729 74A110866-2731 HLT313DL-10-21 NAS1291C5M AN960JD516L 74A110866-2729 74A110866-2731
14			Pin Collar	HLT313DL-10-20 HL570-10MC
15	<div>3</div> <div>4</div>		Pin Collar Shim Shim Pin Collar Washer Shim Shim	HLT313DL-10-22 HL570-10MC 74A110866-2729 74A110866-2731 HLT313DL-10-22 NAS1291C5M AN960JD516L 74A110866-2729 74A110866-2731
16			Pin Collar Washer	HLT313DL-8-16 HL582-8MCA SW2000-8W
17			Pin Collar Washer	HLT313DL-8-12 HL582-8MCA SW2000-8W
18			Pin Collar	HLT313DL-8-11 HL570-8MC
19			Pin Collar Washer	HLT313DL-8-11 HL582-8MCA SW2000-8W
20			Bolt Washer Nut	NAS665V15HT AN960JD516L NAS1291C5M
21			Bolt Washer Nut Shim Shim	HT4025L5-22 AN960JD516L NAS1291C5M 74A110866-2733 74A110866-2735

Figure 2. Skin (74A110954) Fasteners (Sheet 3)


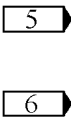
IDX NO.	EFT		Nomenclature	Part Number
22			Bolt Washer Nut	NAS665V16HT AN960JD516 NAS1291C5M
23			Pin Collar	HLT313DL-10-14 HL570-10MC
24			Pin Collar	HLT313DL-10-13 HL570-10MC
25			Pin Collar	HLT313DL-10-16 HL570-10MC
26			Pin Collar	HLT313DL-6-16 HL570-8MC
27			Pin Collar Pin Collar Washer	HLT313DL-8-15 HL570-8MC HLT313DL-8-15 NAS1291C4M AN960JD616L
28			Pin Collar	HLT313DL-10-15 HL570-10MC
29			Pin Collar Shim Pin Collar Washer Shim	HLT313DL-10-17 HL570-10MC 74A110866-2737 HLT313DL-10-17 NAS1291C5M AN960JD516L 74A110866-2739
30			Bolt Washer Nut	NAS663V12HT AN960PD10 NAS1291C3M
31			Pin Collar	HLT313DL-8-11 HL570-8MC
32			Pin Collar	HLT313DL-8-8 HL570-8MC
33			Pin Collar	HLT313DL-12-14 HL570-12MC
34			Pin Collar	HLT313DL-10-8 HL570-10MC
35			Pin Collar	HLT313DL-10-8 HL570-10MC
36			Pin Collar Bracket	HLT313DL-10-10 HL570-10MC 74A110656-2107

Figure 2. Skin (74A110954) Fasteners (Sheet 4)







IDX NO.	EFT		Nomenclature	Part Number
37			Pin Collar	HLT313DL-8-7 HL570-8MC
38			Bolt Washer Plate Nut	NAS1578V5H10 AN960C516L F4924E5-2
39			Bolt Washer Plate Nut Plate Nut	NAS1578V5H10 AN960C516L ST3M431C5M2 MS20426AD4
40			Pin Collar	HLT313DL-10-7 HL570-10MC
41			Bolt Washer Nut Shim Shim	NAS666V11HT N960JD616L NAS1291C6M 74A110866-2809 74A110866-2811
42			Bolt Washer Plate Nut Plate Nut	NAS1758V5H10 AN960C516L F49248-5 F49249E5-2
43			Bolt Washer Plate Nut Plate Nut	NAS1578V5H10 AN960C516L ST3M431C5M2 F49251E5-2
44			Pin Collar Shim Shim	HLT313DL-10-11 HL570-10MC 74A110866-3463 74A110866-3465
45			Pin Collar	HLT53DL-8-8 HL5708M
46	 		Pin Collar Washer Pin Collar Washer	HLT53DL-10-10 TLN1002CD3-5 TLN1023CD3L5W HLT53DL-10-9 TLN1023CD3-5N TLN1023CD3L5W
47			Pin Collar Washer	HLT53DL-10-10 TLN1023CD3-5N TLN1023CD3L5W
48			Pin Collar Washer	HLT313DL-10-7 TLN1002CD3-5 AN960JD516L

Figure 2. Skin (74A110954) Fasteners (Sheet 5)







IDX NO.	EFT		Nomenclature	Part Number
49			Pin Collar Washer	HLT33TB-10-10M NAS1291C5M AN960JD516L
50			Pin Washer Collar	HLT33TB-10-8M NAS1291C AN960JD516L
51			Pin Collar Washer	HLT33TB-10-7M NAS1291C5M AN960JD516L
52			Pin Collar	HLT313DL-6-13 HL570-6MC
53			Pin Collar	HL570-6MC HLT313DL-6-10
54			Pin Collar	HLT313DL-6-8 HL570-6MC
55			Pin Collar	HLT313DL-6-11 HL570-6MC
56			Pin Collar	HLT313DL-6-5 L570-6MC
57			Pin Collar	HLT313DL-8-6 HL570-8MC
58			Pin Collar	HLT313DL-10-21 HL570-10MC
59			Pin Collar	HLT313DL-6-8 HL570-6MC
60			Pin Collar	HLT313DL-6-7 HL570-8MC
61			Pin Collar	HLT313DL-10-11 HL570-10MC
62			Bolt Washer Nut	NAS663V8HT AN960PD10 NAS1291C3M
63	 		Bolt Bolt Washer Nut	NAS665V11T HT4024L5-11 AN960JD516L NAS1291C5M
64	 		Bolt Bolt Washer Nut	NAS664V11HT HT4024L4-11-1 AN960JD416L NAS1291C4M

Figure 2. Skin (74A110954) Fasteners (Sheet 6)









IDX NO.	EFT		Nomenclature	Part Number
65	 		Bolt Bolt Washer Nut	NAS664V10HT HT4024L4-10-1 AN960JD416L NAS1291C4M
66	 		Bolt Bolt Washer Nut	NAS664V9HT HT4024L4-9-1 AN960JD416 NAS1291C4M
67			Bolt Washer Nut	NAS665V21HT AN960JD516L NAS1291C5M
68			Pin Collar	HLT313DL-6-6 HL570-8C
69			Pin Collar	HLT313DL-6-7 HL570-6MC
70			Pin Collar	HLT313DL-8-9 HL570-6MC
71	 		Pin Collar Washer Pin Collar Washer	HLT33TB-8-6 LH12180-4 AN960JD516L HLT33TB-8-6 NAS1291C AN960JD516L
72			Bolt Plate Nut Plate Nut Assy	HT4024L3-6 F49249E3-1 74A110934-1005
73			Pin Collar	HLT313DL-6-6 HL570-6MC
74			Screw Washer Nut	NAS663V10HT AN960PD10 NAS1291C3M
75			Screw Washer Nut	NAS663V10HT AN960PD10 NAS1291C3M
76	 		Pin Washer Nut Nut	HLT33TB-10 AN960JD516L LH12180-5 NAS1291C5M
77			Pin Collar Washer	HLT313DL-8-15 HL582-8MCA SW2000-8W

Figure 2. Skin (74A110954) Fasteners (Sheet 7)

IDX NO.	EFT		Nomenclature	Part Number
78	<div>5</div> <div>6</div>		Pin Collar Shim Shim Pin Collar Washer Shim Shim	HLT313DL-10-17 HL570-10MC 74A110866-2741 74A110866-2743 HLT313DL-10-17 NAS1291C5M AN960JD516L 74A110866-2741 74A110866-2743
79			Pin Collar Washer	HLT313DL-10-14 NAS1291C AN960JD516L
80			Pin Collar	HLT313DL-10-19 HL570-10MC
81			Pin Collar	HLT313DL-10-9 HL570-10MC
82			Pin Collar Pin Collar Washer	HLT313DL-10-8 HL570-10MC HLT33TB-10-8 NAS1291C5M AN960JD516L
83			Pin Collar Shim Shim	HLT313DL-10-8 HL570-10MC 74A110866-3451 74A110866-3453
84			Bolt Nut Washer	NAS663V11 NAS1291C3M AN960PD10
85			Bolt Nut Washer	NAS663V8 NAS1291C3M AN960PD10

LEGEND

- 1

 161353 thru 161365
- 2

 161366 and Up.
- 3

 161353 thru 161714.
- 4

 161715 and Up.
- 5

 Left Side 161353 thru 161944 and 161976. Right side 161353 thru 161944 and 161963.
- 6

 Left Side 161945 thru 161975, 161977 and up. Right side 161945 thru 161962 161964 and Up.
- 7

 161353 thru 161714, 162394 and Up.
- 8

 161715 thru 161987.
- 9

 When replacing existing fastener with the first oversize, blend oversize repair fastener pin threads after installation to 0.18 inch maximum past the end of the nut per A1-F18AC-SRM-250, WP038 00, see section B - B. Minimum thread protrusion is two full threads past the end of the nut.
- 10

 Prime and touch up paint on end of fastener after blending per A1-F18AC-SRM-500, WP008 00.

Figure 2. Skin (74A110954) Fasteners (Sheet 8)

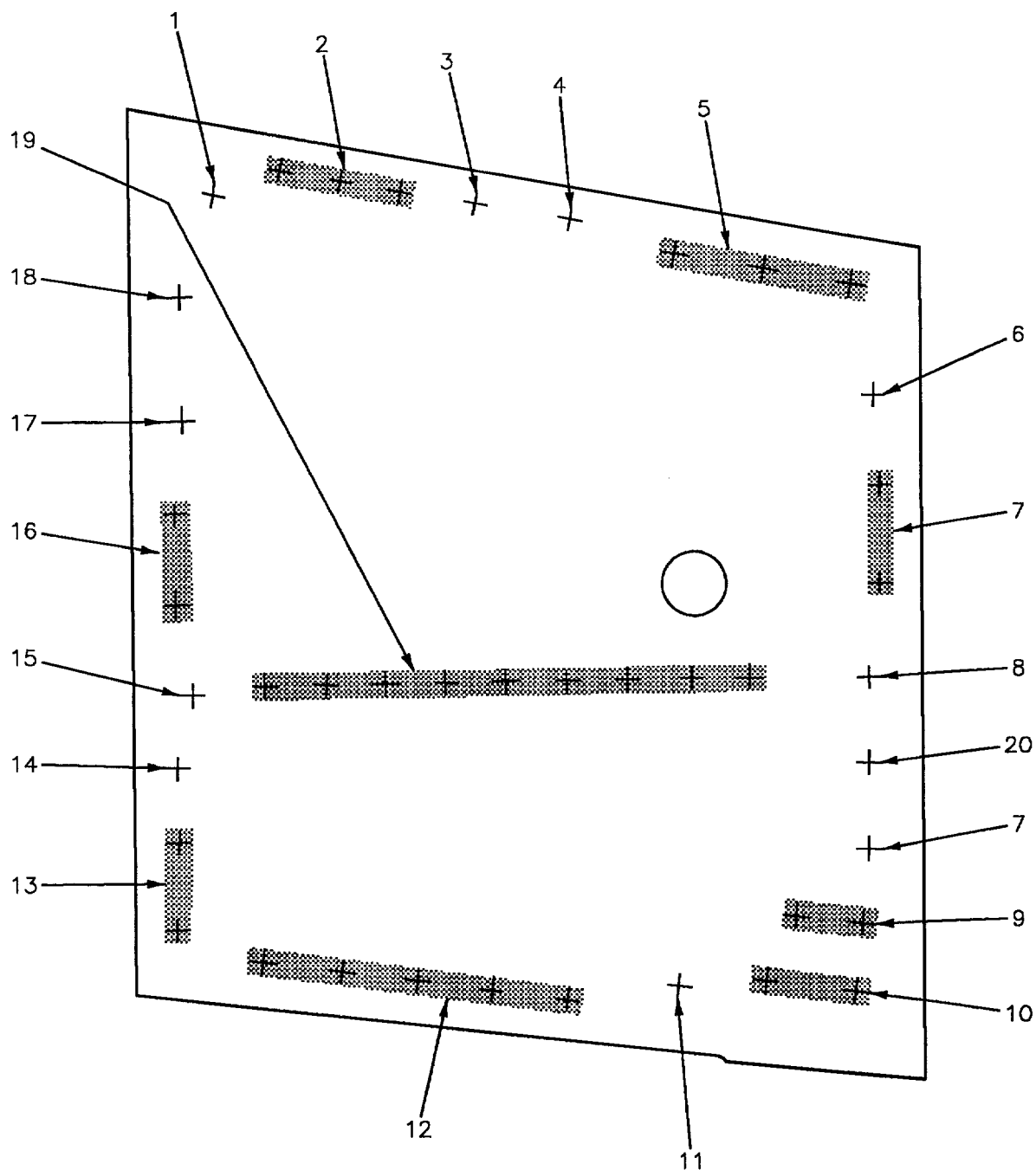


Figure 3. Skin (74A110645) Fasteners (Sheet 1)



IDX NO.	EFT		Nomenclature	Part Number
1			Pin Collar	HLT311DL-12-15 HL570-12MC
2			Pin Collar	HLT311DL-8-13 HL570-8MC
3			Pin Collar Washer	HLT311DL-10-13 HL582-10MCA SW2000-10W
4			Pin Collar Washer	HLT311DL-10-16 HL582-10MCA SW2000-10W
5			Screw Washer Nut	HT4024L7-17 AN960D 28FT-720
6			Pin Collar	HLT311DL-12-11 HL570-12MC
7			Pin Collar	HLT51DL-8-9 HL570-8MC
8			Pin Collar	HLT51DL-8-10 HL570-8MC
9			Pin Collar Shim Shim	HLT311DL-10-9 HL570-10MC 74A110866-3435 74A110866-3437
10			Pin Collar Shim Shim	HLT311DL-12-9 HL570-12MC 74A110866-3435 74A110866-3437
11			Pin Collar	HLT311DL-12-7 HL570-12MC
12			Pin Collar	HLT313DL-8-6 HL570-8MC
13			Pin Collar	HLT311DL-10-10 HL570-10MC
14	 		Pin Collar Washer Pin Washer Nut	HLT49TB-10-7 TLN1002CD3-5 AN960JD716 HLT49TB-10-7 AN960JD516L NAS1291C5M
15			Pin Collar	HLT311DL-10-8 HL570-10MC

Figure 3. Skin (74A110645) Fasteners (Sheet 2)

IDX NO.	EFT		Nomenclature	Part Number
16			Pin Collar	HLT311DL-10-7 HL570-10MC
17			Pin Collar	HLT51DL-12-6 HL570-12MC
18	<div>1</div> <div>2</div>		Pin Collar Washer Pin Washer Nut	HLT49TB-12-15 TLN1002CD3-6 AN960JD716 HLT49TB-12-15 AN960JD616L NAS1291C6M
19			Rivet	ST3M675-5-4
20	<div>1</div> <div>2</div>		Pin Collar Pin Washer Nut	ST3M758C-4-9 ST3M525N HLT49TB-8-9 AN960JD416L NAS129C4M
<p style="text-align: center;">LEGEND</p> <div>1</div> 161353 thru 161714. <div>2</div> 161715 and Up.				

Figure 3. Skin (74A110645) Fasteners (Sheet 3)

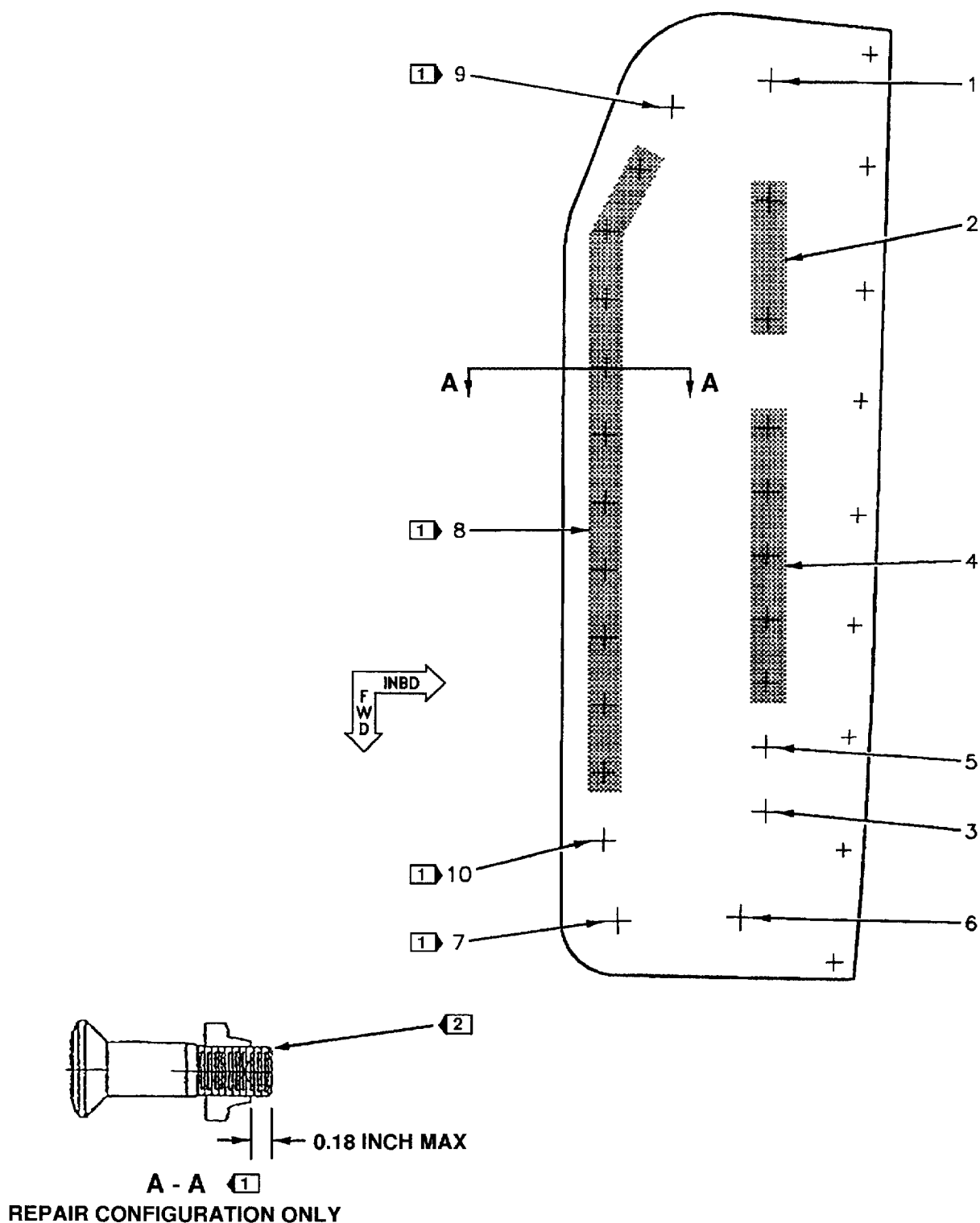
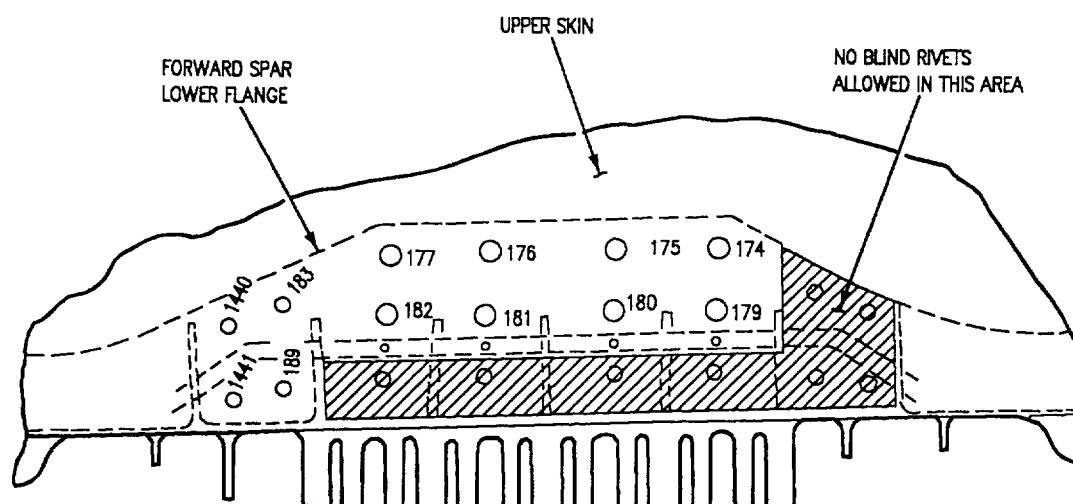
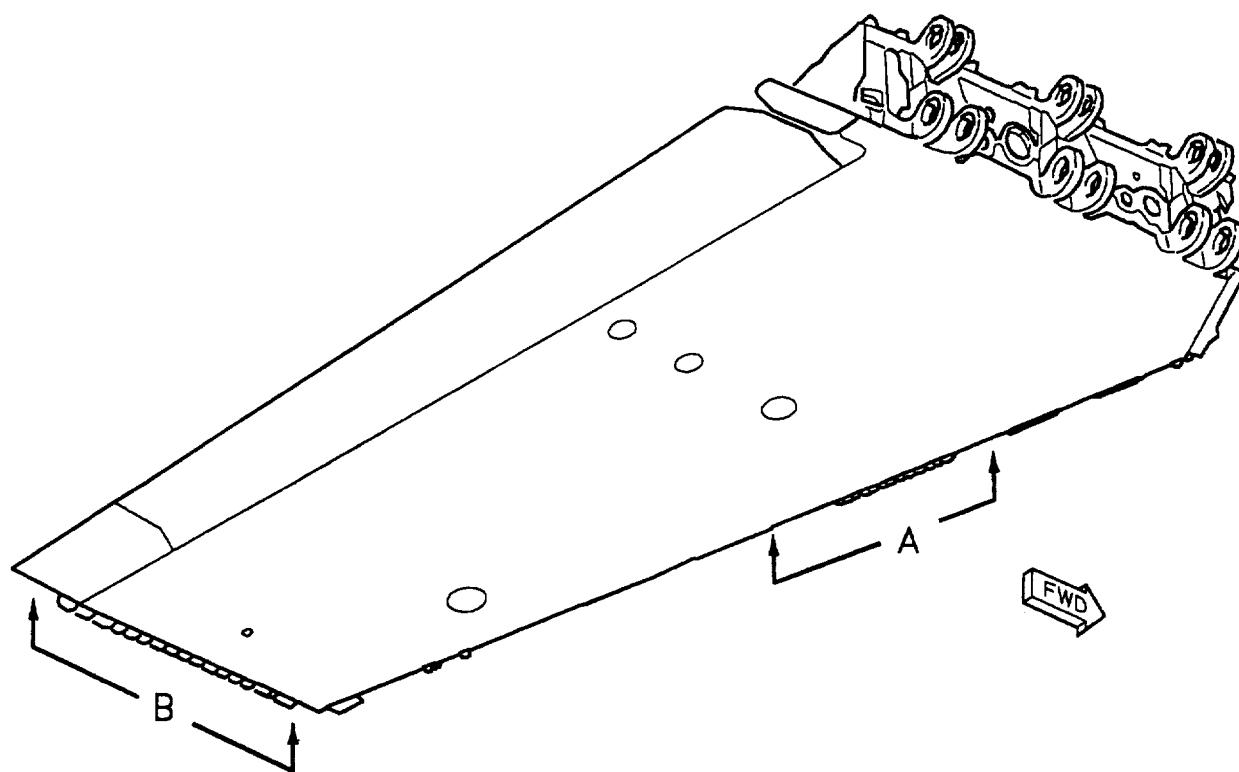


Figure 4. Skin (74A110855) Fasteners (Sheet 1)

IDX NO.	EFT		Nomenclature	Part Number
1			Pin Collar	HLT313DL-10-14 HLS70-12-MC
2			Pin Collar	HLT313DL-10-10 HL570-12-MC
3			Pin Collar	HLT313DL-8-8 HLS70-8MC
4			Pin Collar	HLT313DL-8-S HL570-8MC
5			Pin Collar	HLT313DL-8-7 HL570-10MC
6			Pin Collar	HLT313DL-12-8 HL570-10MC
7			Pin Collar Washer	HLT33TB-12-11M HL570-10MC AN960JDS16L
8			Pin Collar Washer	HLT33TB-8-7M HL570-8MC AN960JD516L
9			Pin Collar Washer	HLT33TB-10-7M ANS1291C AN960JD516L
10			Pin Collar Washer	HLT33TB-10-8M NAS1291C AN960JD516L
LEGEND				
<div>1</div> When replacing existing fastener with the first oversize, blend oversize repair fastener pin threads after installation to 0.18 inch maximum past the end of the nut per A1-F18AC-SRM-250, WP038 00, see Section A - A. Minimum thread protrusion is two full threads past the end of the nut.				
<div>2</div> Prime and touch up paint on end of fastener after blending per A1-F18AC-SRM-500, WP008 00.				

Figure 4. Skin (74A110855) Fasteners (Sheet 2)



A

ONE BLIND RIVET PER ROW FORWARD/AFT

NO BLIND RIVET SHALL BE NEXT TO ANOTHER
IN ANY DIRECTION.

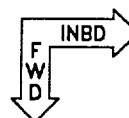


Figure 5. Allowable Location of Blind Rivets (Sheet 1)

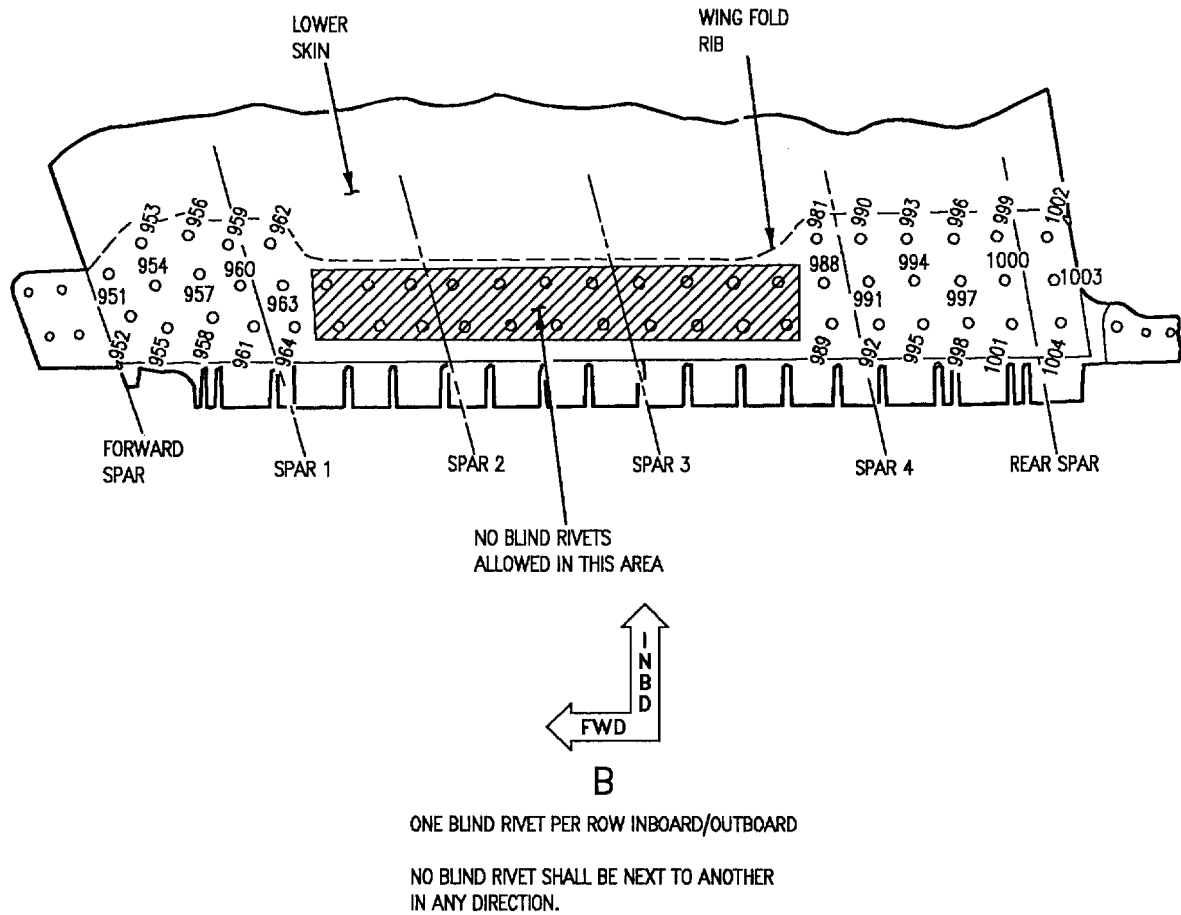


Figure 5. Allowable Location of Blind Rivets (Sheet 2)

ORGANIZATIONAL MAINTENANCE

STRUCTURE REPAIR

INNER WING HOLE NUMBERS

Reference Materials

None

Alphabetical Index

Subject	Page No.
Description	1
Inner Wing Skins Hole Numbers, Figure 1	2

Record of Applicable Technical Directives

None

Support Equipment Required

None

ing inner wing skins and replacing fasteners. This WP is referenced from other WP's in this manual when hole number data is required.

Materials Required

None

NOTE

Do not confuse fastener hole numbers in this work package with the index numbers listed in WP003 01 and WP003 02. Each individual hole is assigned a hole number. Index numbers are link between an illustration and the chart listing the part numbers.

1. DESCRIPTION.

2. This work package identifies inner wing hole numbers. Hole numbers are used when repairing or replac-

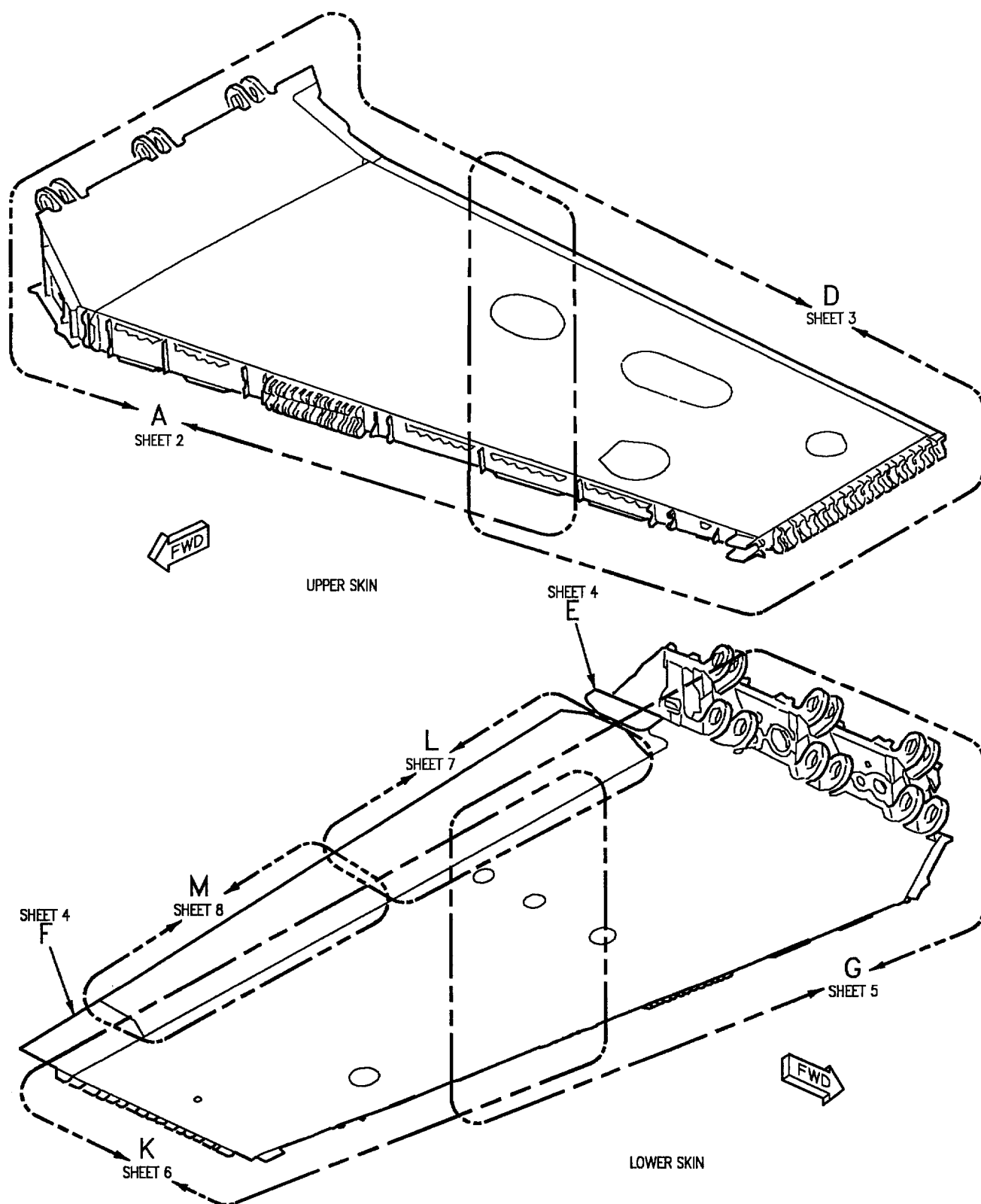


Figure 1. Inner Wing Skins Hole Numbers (Sheet 1)

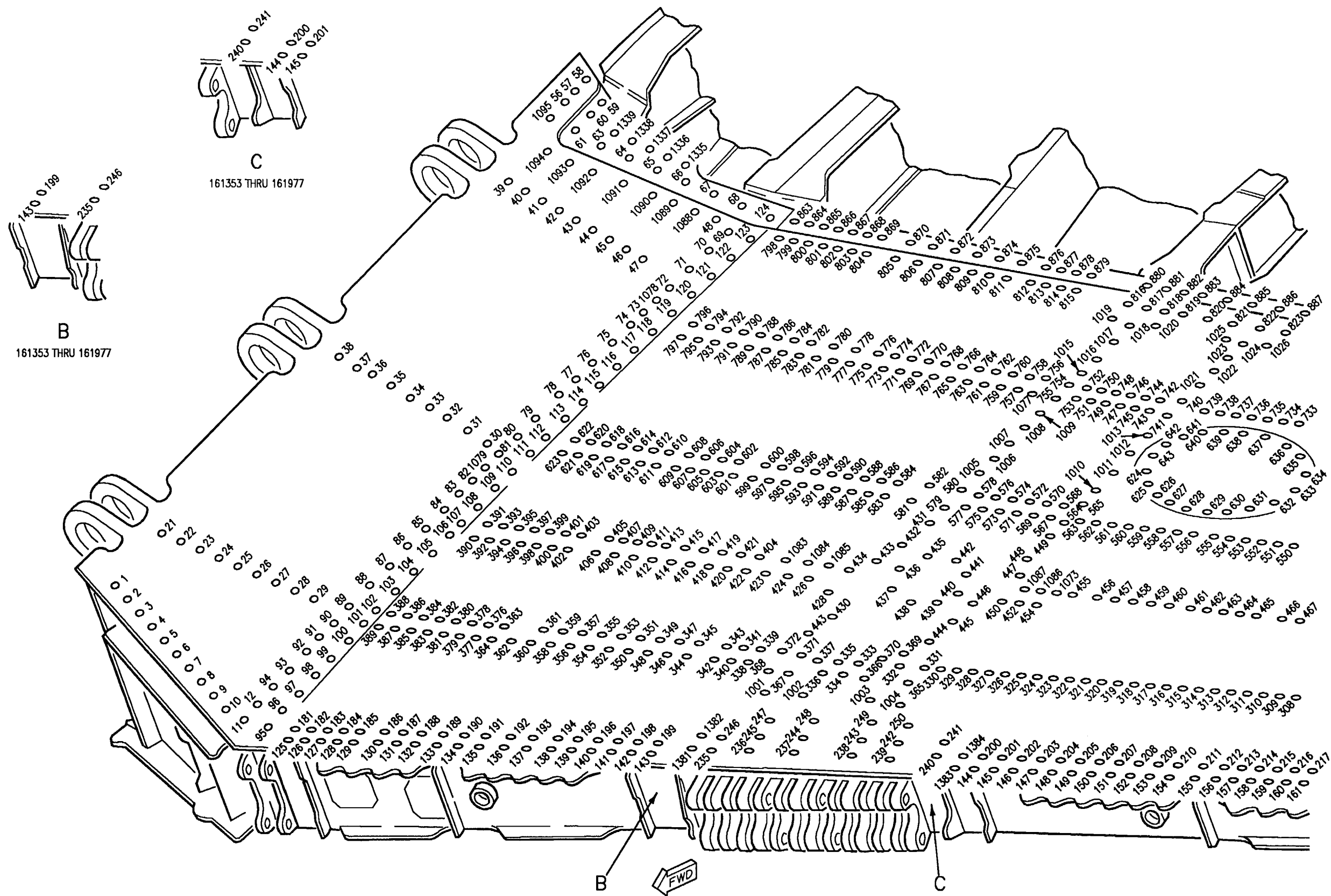


Figure 1. Inner Wing Skins Hole Numbers (Sheet 2)

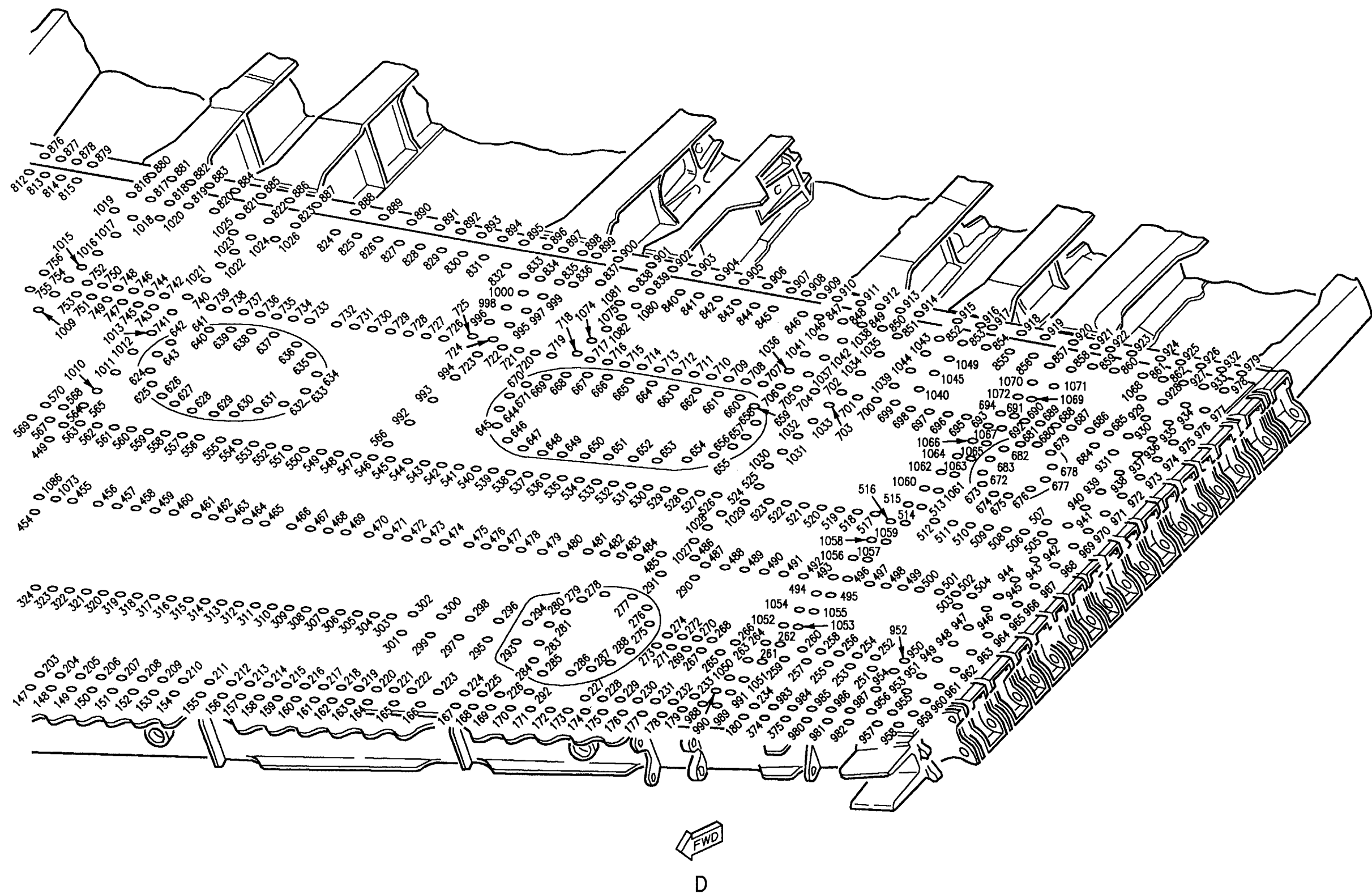


Figure 1. Inner Wing Skins Hole Numbers (Sheet 3)

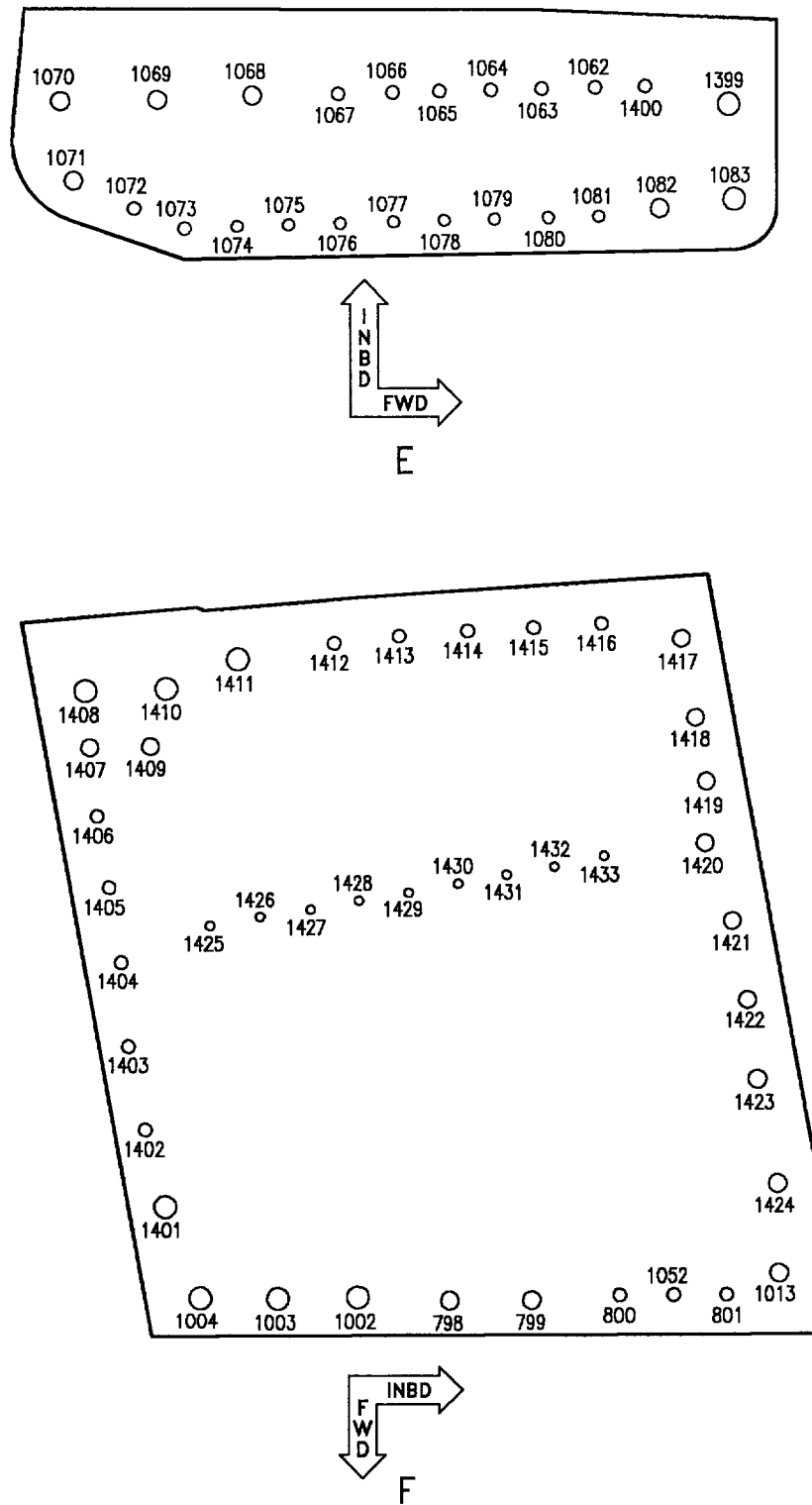


Figure 1. Inner Wing Skins Hole Numbers (Sheet 4)

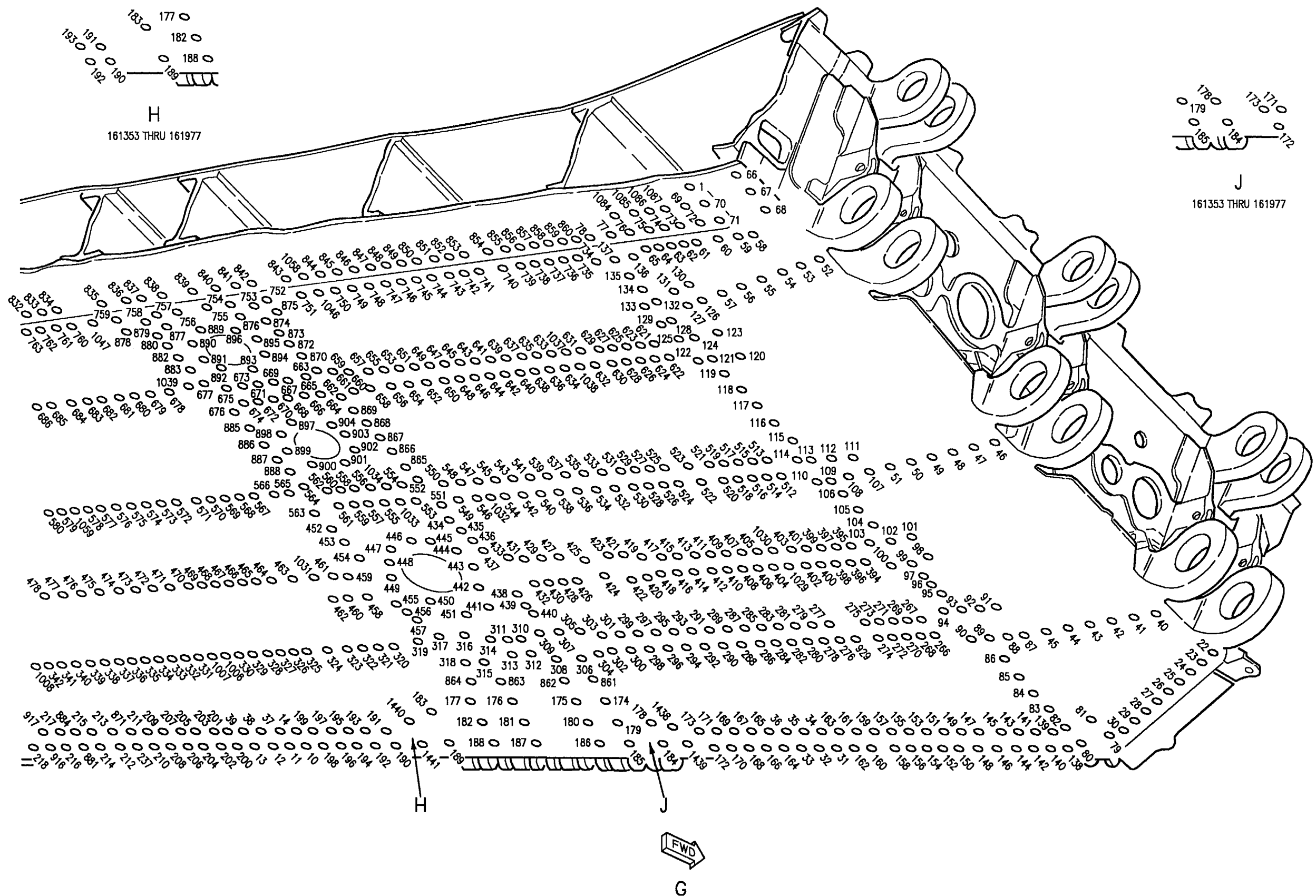


Figure 1. Inner Wing Skins Hole Numbers (Sheet 5)

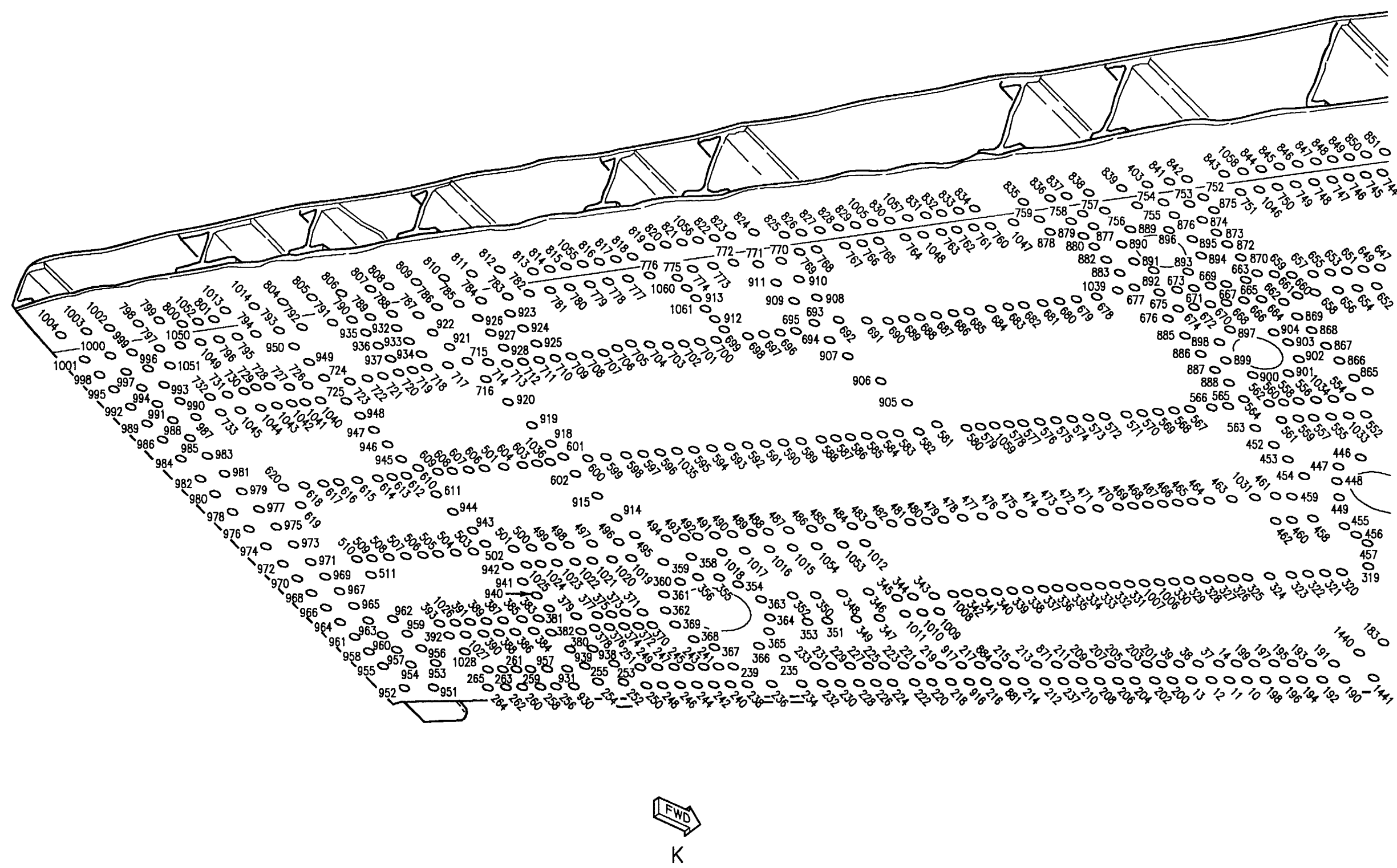


Figure 1. Inner Wing Skins Hole Numbers (Sheet 6)

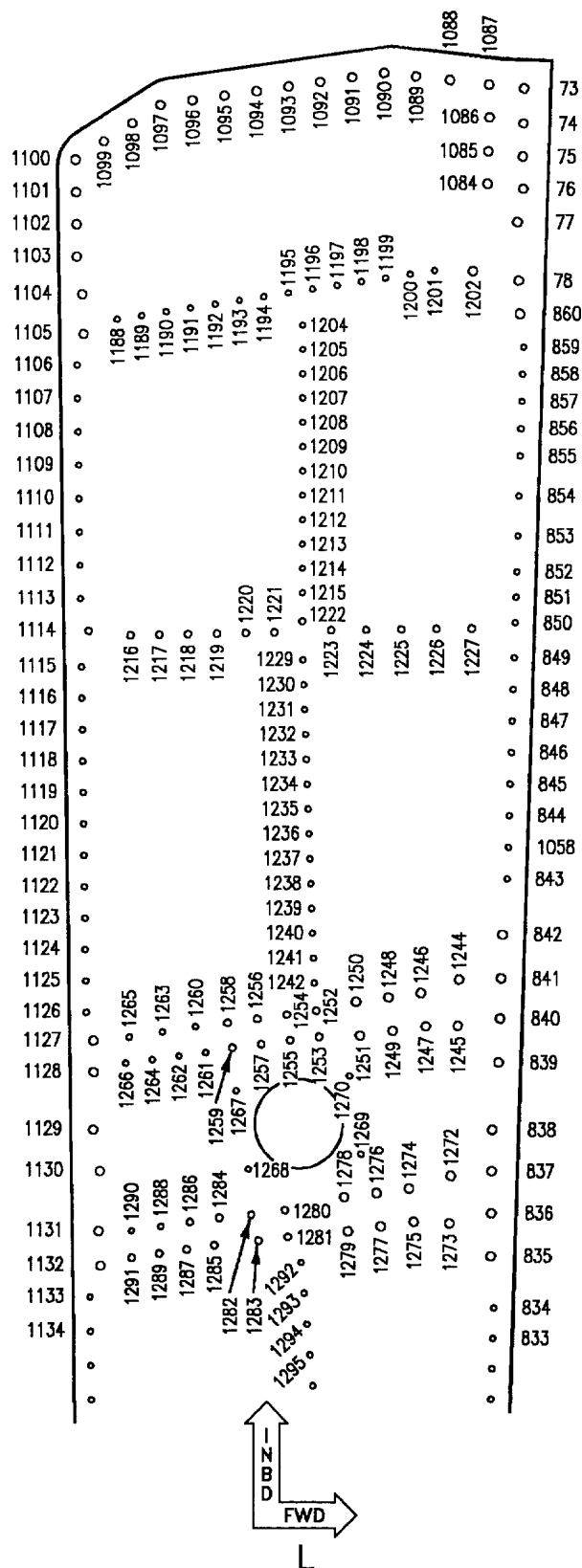


Figure 1. Inner Wing Skins Hole Numbers (Sheet 7)

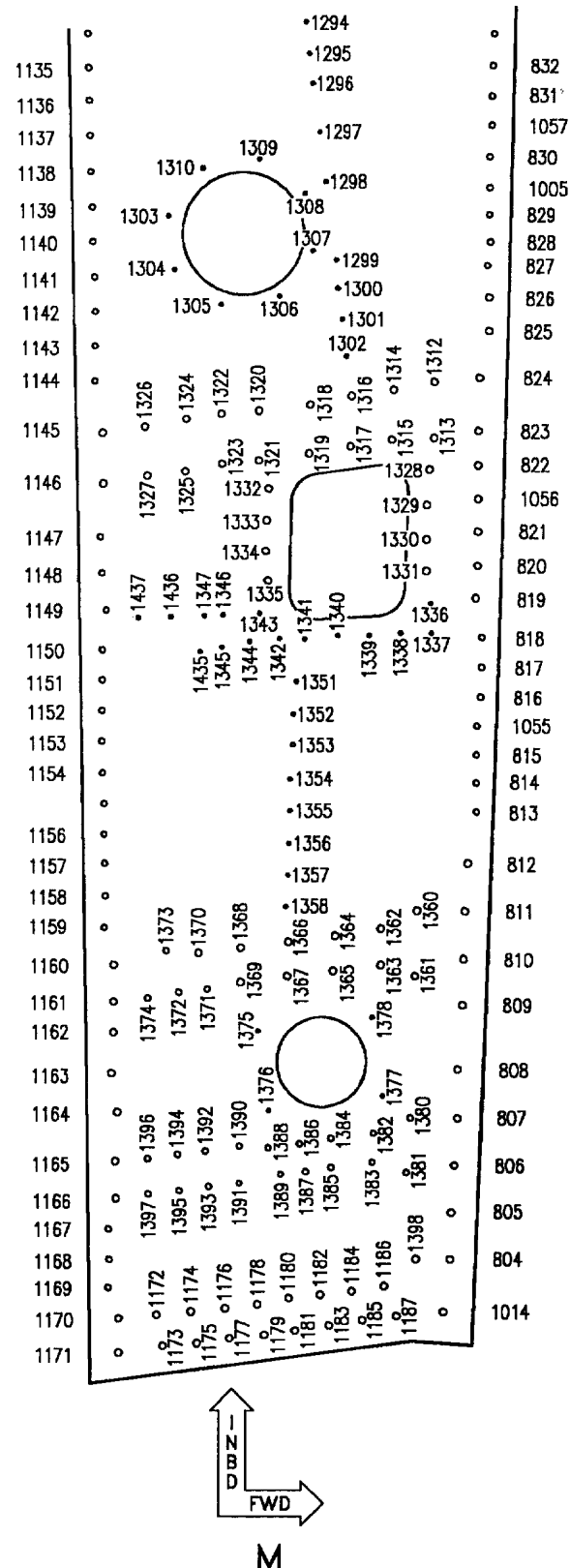


Figure 1. Inner Wing Skins Hole Numbers (Sheet 8)

DEPOT MAINTENANCE

STRUCTURE REPAIR

INNER WING SKINS HOISTING ADAPTER

RE274110600-1, -2

Reference Material

Structure Repair, Wing A1-F18AC-SRM-210
 Inner Wing Maintenance Fixture, RE174110004-1, -2 Repairs WP004 02

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Subject	Page No.
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Attaching Wing Hoist Adapter to 74A110600 Upper Skin	1
Attaching Wing Hoist Adapter to 74A110601 Lower Skin	2
Loading Skins into RE174110004 Inner Wing Maintenance Fixture	7

Record of Applicable Technical Directives

None

1. DESCRIPTION.

2. The hoisting adapter provides the ability to hoist the 74A110600 upper skin and 74A110601 lower inner wing torque box skins, from either a vertical or horizontal attitude, and rotate between the vertical and horizontal position. Removal and installation of the skins occurs while the torque box structure is installed in the RE174110004 Inner Wing Maintenance Fixture.

3. **ATTACHING WING HOIST ADAPTER TO 74A110600 UPPER SKIN.** See figure 1. Use RE274110600-1 for left side skin; use RE274110600-2 for right side skin.

NOTE

Procedures below are for skins in the horizontal position. If skin is standing vertically (leading edge down), rotate hoist adapter to align with vertical position of wing by turning ratchet (detail 108).

a. Locate subassembly A for left skin, or subassembly B for right skin, on inside surface of skin and through outboard pylon hole, view A.

b. Locate plate (detail 125) on mold line surface, at pylon hole, with arrow pointing to front spar line, view A.

c. Attach plate (detail 125) to subassembly A or subassembly B with threaded pin (detail 126), view A.

d. Locate subassembly G on inside surface of skin, and through access door opening with long side parallel to front spar line, view B.

e. Locate plate (detail 15) on mold line surface at access door opening, and clamp to subassembly G using threaded pin (detail 157), view B.

Support Equipment Required

None

Materials Required

None

f. Locate weld assembly (details 16 and 17) to forward side of forward inboard attach fitting, view C.

g. Install pin (detail 140) through weld assembly and into attach fitting, view C.

h. Locate weld assembly (details 16 and 17) to aft side of aft inboard attach fitting, view C.

i. Install pin (detail 140) through weld assembly and into attach fitting, view C.

j. Attach angle (detail 138) and angle (detail 119) assembly to frame (detail 13) using L-pins (detail 115) and hand knobs (detail 103), view A.

k. Lower frame (detail 13) in approximate position on skin by aligning attach points.

l. Attach weld assemblies (details 16 and 17) to frame (detail 13) using L-pins (detail 113) and hand knobs (detail 142), view C.

m. Attach frame (detail 13) to plate (detail 15) by inserting pin (detail 132) through plate (detail 15) and angle (detail 136), view B.

n. Attach frame (detail 13) to plate (detail 125) using hand knobs (detail 111) through angle (detail 138) into plate (detail 125), view A.

o. Lock frame (detail 13) into position using L-pin (detail 113) to prevent rotation of skin while hoisting, view D.

p. Position hoist ring (detail 154) over center of gravity of wing skin:

(1) Take up slack on hoist.

(2) Slide hoist ring (detail 154) along hoist bar (detail 11) to center of gravity as required by pulling on pull strap (detail 121) to retract keeper pin (detail 20), view D.



Be sure pin is completely seated in hoist bar to prevent shifting of center of gravity during movement of wing skin.

(3) Insert keeper pin (detail 20) into slot in hoist bar (detail 11) at center of gravity by releasing pull strap (detail 121).

q. Hoist wing skin and install in inner wing maintenance fixture per Loading Skins into RE174110004, Inner Wing Maintenance Fixture, this WP.

r. With hoist still supporting the hoisting adapter, disconnect frame (detail 13) from subassemblies A or B, and G by removing hand knobs (details 111 and 112) and pin (detail 132), views A and B.

s. Carefully move hoisting adapter away from skin.

t. Remove subassemblies A or B, G, and plates (details 15 and 125) from skin by removing pins (details 126 and 157), views A and B.

u. Stow hoisting adapter and details for later use.

4. ATTACHING WING HOIST ADAPTER TO

74A110601 LOWER SKIN. See figure 2. Use RE274110600-2 for left side skin; use RE274110600-1 for right side skin.

Support Equipment Required

None

Materials Required

None

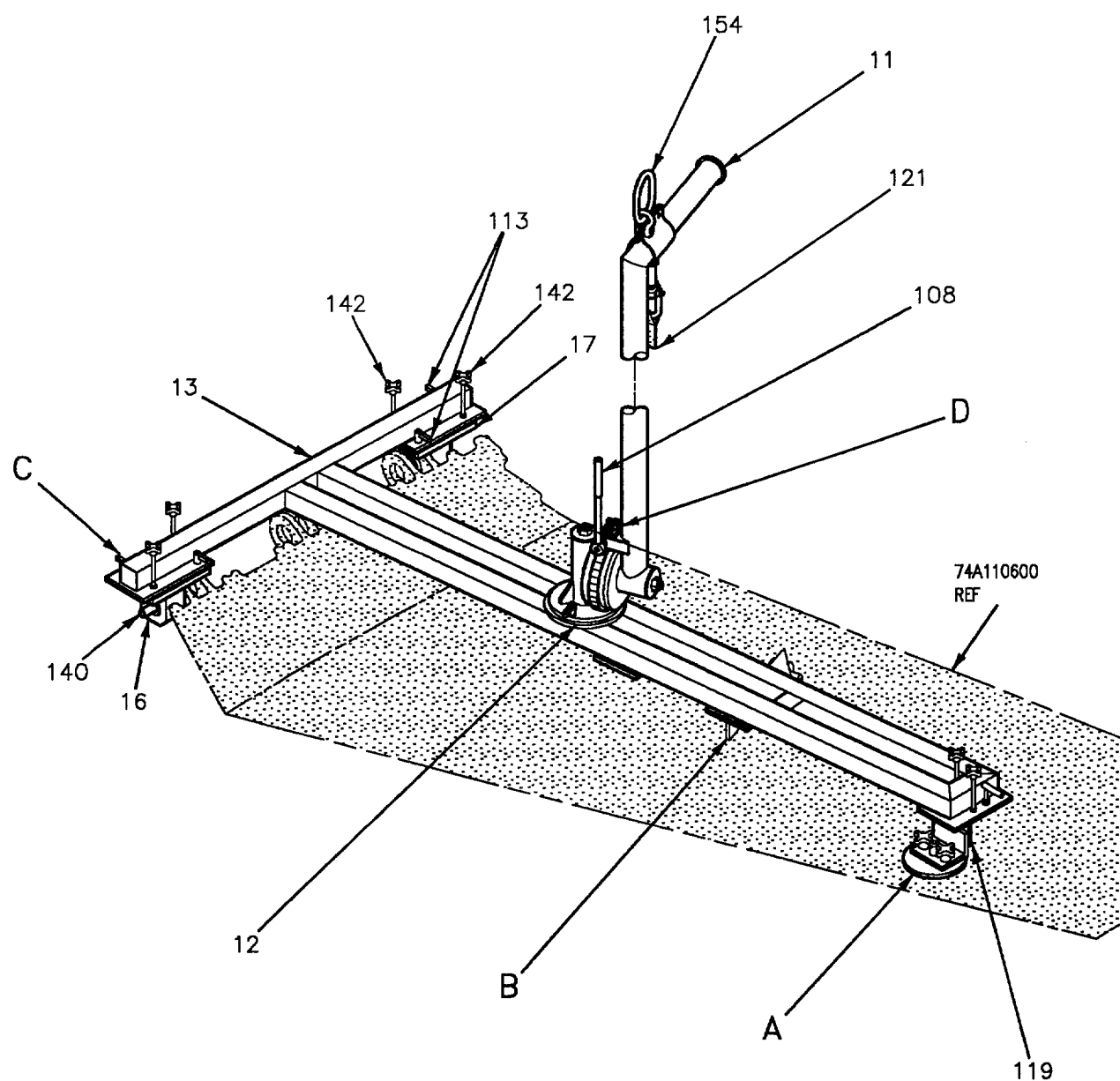
NOTE

Procedures below are for skins in the horizontal position. If skin is standing vertically (leading edge down), rotate hoist adapter to align with vertical position of wing by turning ratchet (detail 108).

a. Locate subassembly D for left skin, or subassembly C for right skin, on inside surface of skin and through outboard pylon hole, view A.

b. Locate plate (detail 125) on mold line surface, at outboard pylon hole, with arrow pointing to front spar line, view A.

c. Attach plate (detail 125) to subassembly D or subassembly C with threaded pin (detail 126), view A.



03040101

Figure 1. Attaching Hoisting Adapter to 74A110600 Upper Skin (Sheet 1)

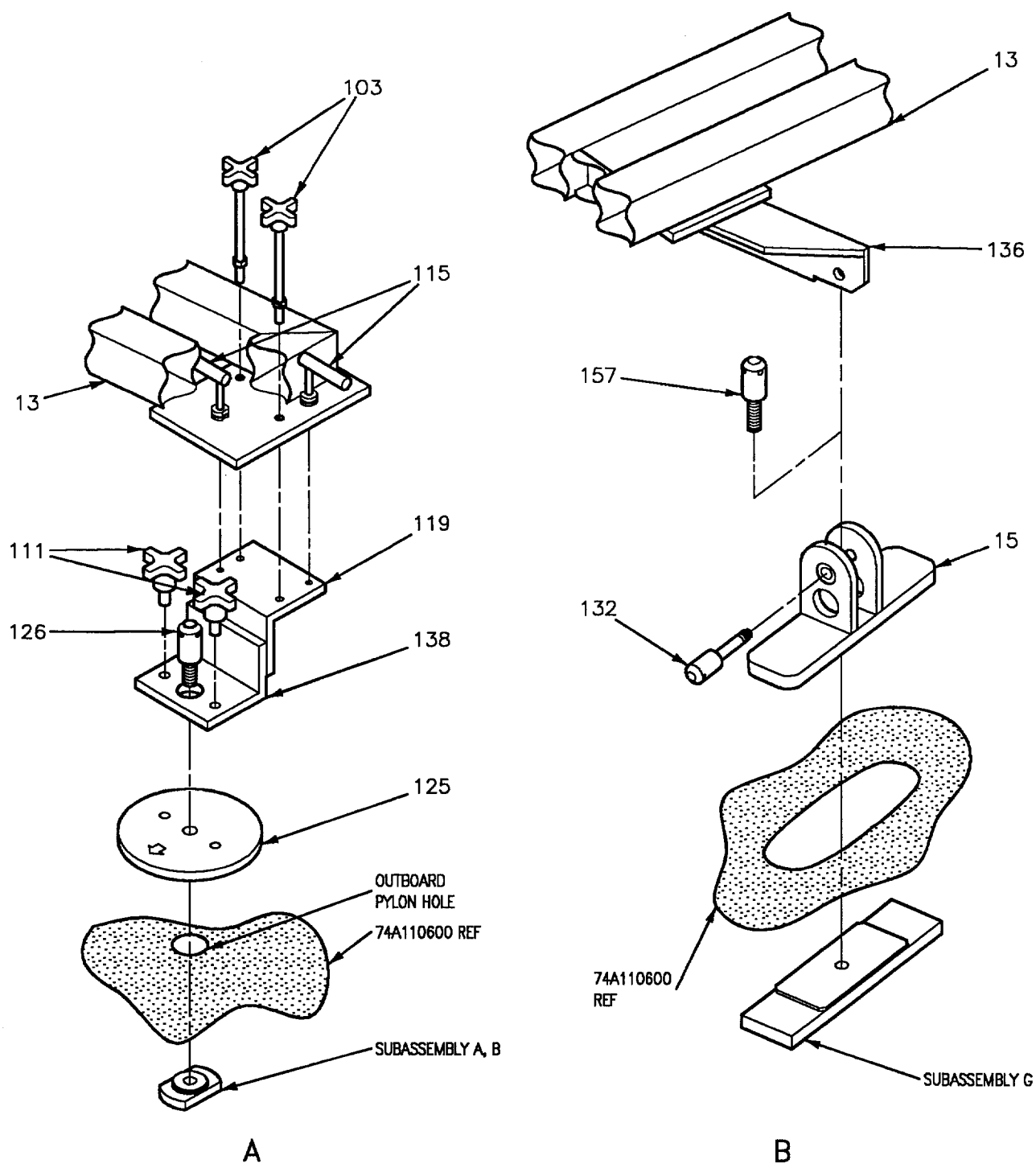


Figure 1. Attaching Hoisting Adapter to 74A110600 Upper Skin (Sheet 2)

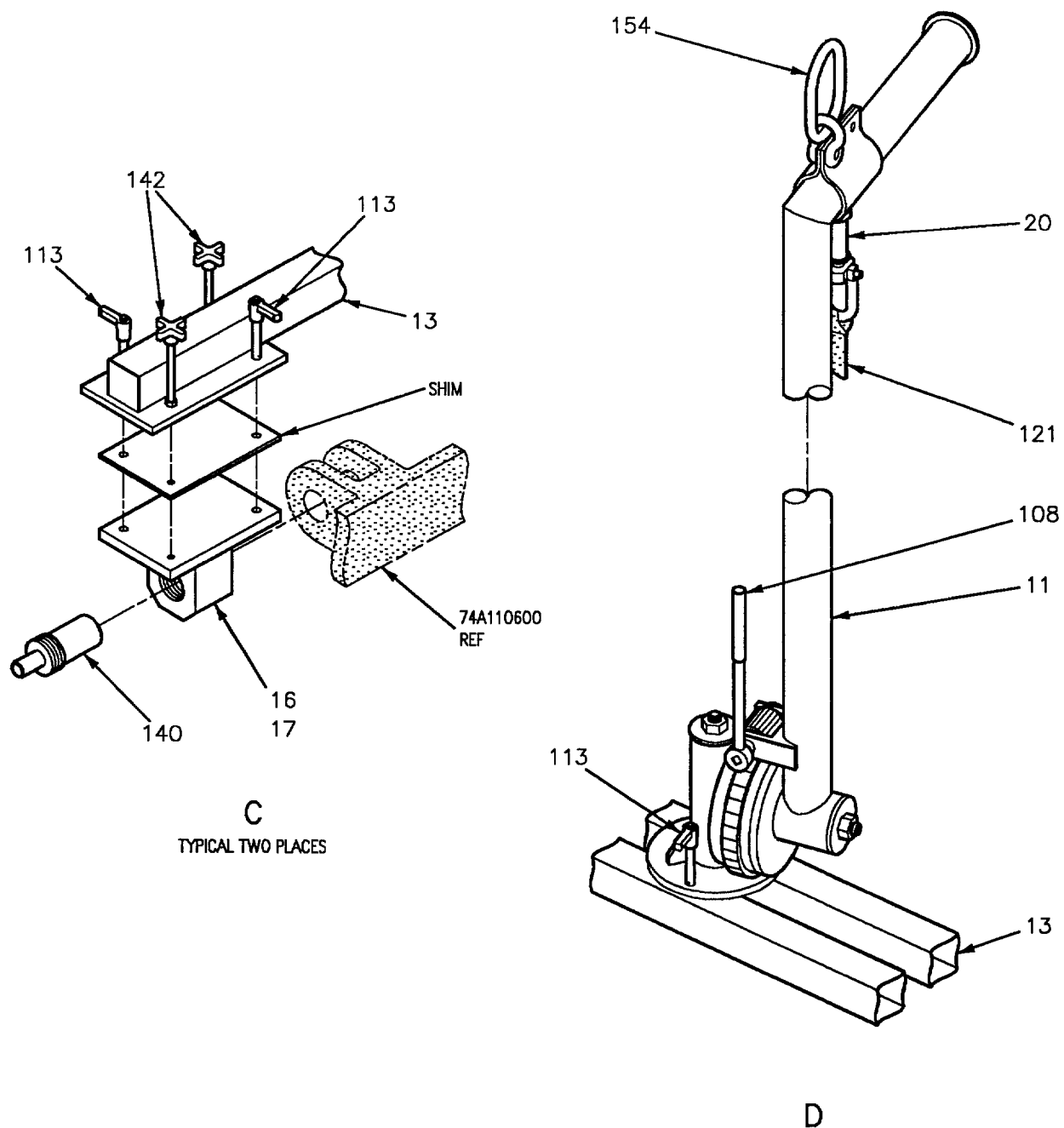


Figure 1. Attaching Hoisting Adapter to 74A110600 Upper Skin (Sheet 3)

Detail No.	Name	Function
Subassembly A	Locator	For left skin, installs in outboard pylon hole.
Subassembly B	Locator	For right skin, installs in outboard pylon hole.
Subassembly G	Locator	Installs in access door opening to attach skin to hoist.
11	Hoist Bar	Part of adapter that attaches to the hoist.
13	Frame	Main part of adapter that supports skin at attach points.
15	Plate	Attaches to subassembly G and adapter to lift skin.
16, 17	Weld Assembly	Attaches to wing skin forward/aft lugs to lift skin.
20	Keeper Pin	Secures hoist ring to hoist bar at center of gravity.
103	Hand Knob	Secures frame to angle at center of gravity.
108	Ratchet	Adjusts hoist adapter for horizontal or vertical attachment to wing skin.
111, 112	Hand Knob	Attaches angle to plate to lift skin.
113	L-Pin	Locates various details to adapter.
115	L-Pin	Locates and attaches frame to angle.
119	Angle	Attaches frame to angle for left skin.
121	Pull Strap	Engages/disengages keeper pin in hoist bar.
125	Plate	Installs in outboard pylon hole to secure skin to adapter.
126	Threaded Pin	Connects plate (detail 125) to subassemblies A and B.
132	Pin	Attaches plate (detail 15) to angle (detail 136) to lift skin.
136	Angle	Attaches frame to plate (detail 15) to lift skin.
138	Angle	Attaches frame to plate (detail 125) to lift skin.
140	Attach Fitting Pin	Installs through weld assemblies into attach fitting lugs.
142	Hand Knob	Secures frame to weld assemblies (details 16 and 17).
154	Hoist Ring	Attaches hoist adapter to hoist.
157	Threaded Pin	Connects plate (detail 15) to subassembly G.

Figure 1. Attaching Hoisting Adapter to 74A110600 Upper Skin (Sheet 4)

d. Locate subassembly F for left skin, or subassembly E for right skin, on inside surface of skin, and through inboard pylon hole, view B.

e. Locate plate (detail 14) on mold line surface at inboard pylon hole, and clamp to the subassembly using threaded pin (detail 127), view B.

f. Locate weld assembly (details 18 and 19) to forward of forward inboard attach fitting, view C.

g. Install pin (detail 141) through weld assembly and into attach fitting, view C.

h. Locate weld assembly (details 18 and 19) to aft side of aft inboard attach fitting, view C.

i. Install pin (detail 141) through weld assembly and into attach fitting, view C.

j. Attach angle (detail 139) and angle (detail 120) assembly to frame (detail 13) using L-pins (detail 115) and hand knobs (detail 103), view A.

k. Lower frame (detail 13) in approximate position on skin by aligning attach points.

l. Attach weld assemblies (details 18 and 19) to frame (detail 13) using L-pins (detail 113) and hand knobs (detail 142), view C.

m. Attach frame (detail 13) to plate (detail 14) by inserting pin (detail 132) through plate (detail 14) and angle (detail 137), view B.

n. Attach frame (detail 13) to plate (detail 125) using hand knobs (detail 111) through angle (detail 139) into plate (detail 125), view A.

o. Lock frame (detail 13) into position using L-pin (detail 113) to prevent rotation of skin while hoisting, view D.

p. Position hoist ring (detail 154) over center of gravity of wing skin:

(1) Take up slack on hoist.

(2) Slide hoist ring (detail 154) along hoist bar (detail 11) to center of gravity as required by pulling on pull strap (detail 121) to retract keeper pin (detail 20), view D.



Be sure pin is completely seated in hoist bar to prevent shifting of center of gravity during movement of wing skin.

(3) Insert keeper pin (detail 20) into slot in hoist bar (detail 11) at center of gravity by releasing pull strap (detail 121).

q. Hoist wing skin and install in inner wing maintenance fixture per Loading Skins into RE174110004, Inner Wing Maintenance Fixture, this WP.

r. With hoist still supporting the hoisting adapter, disconnect frame (detail 13) from subassemblies C or D, and E or F by removing hand knobs (details 111 and 112) and pin (detail 132), views A and B.

s. Carefully move hoisting adapter away from skin.

t. Remove subassemblies C or D, E or F, and plates (details 14 and 125) from skin by removing pins (details 126 and 127), views A and B.

u. Stow hoisting adapter and details for later use.

5. LOADING SKINS INTO RE174110004, INNER WING MAINTENANCE FIXTURE. See figure 3.

Support Equipment Required

None

Materials Required

None

a. Attach skin to hoisting adapter, this WP.

b. Hoist skin enough to clear the floor when rotated to vertical position.

c. Rotate skin to vertical position (leading edge down) using ratchet (detail 108), view A.

d. Position hoist ring (detail 154) over center of gravity of wing skin:

(1) Take up slack on hoist and rest forward edge of skin on padded supports.

(2) Slide hoist ring (detail 154) along hoist bar (detail 11) to center of gravity, as required, by pulling on pull strap (detail 121) to retract keeper pin (detail 20), view D.



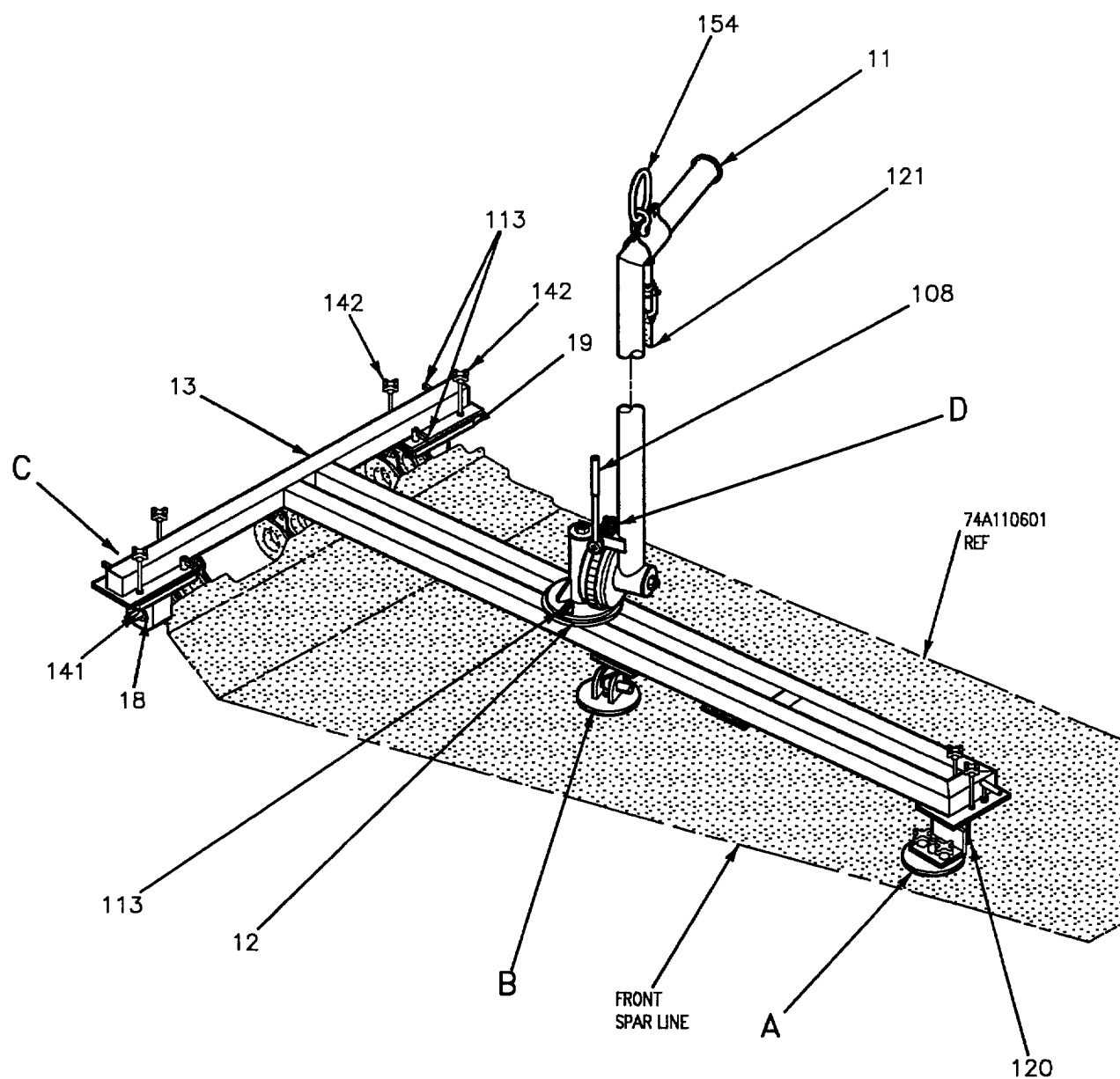
Be sure pin is completely seated in hoist bar to prevent shifting of center of gravity during movement of wing skin.

(3) Insert keeper pin (detail 20) into slot in hoist bar (detail 11) at center of gravity by releasing pull strap (detail 121).

e. Hoist wing into approximate position next to structure in RE174110004 Inner Wing Maintenance Fixture.

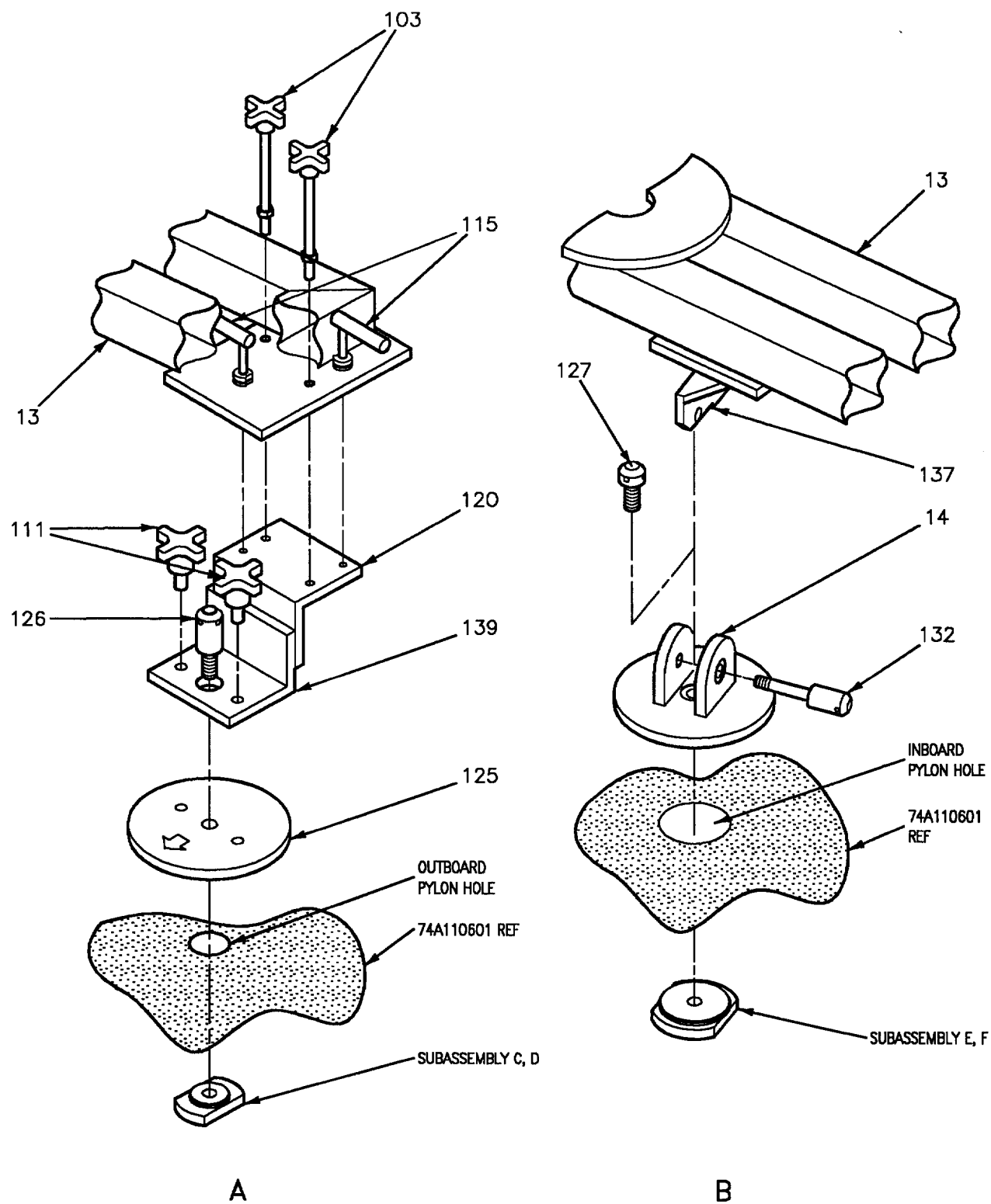
f. Install skin per Locating Upper and Lower Skins (WP004 02).

g. Remove hoist adapter from skin.



03040201

Figure 2. Attaching Hoisting Adapter to 74A110601 Lower Skin (Sheet 1)



03040202

Figure 2. Attaching Hoisting Adapter to 74A110601 Lower Skin (Sheet 2)

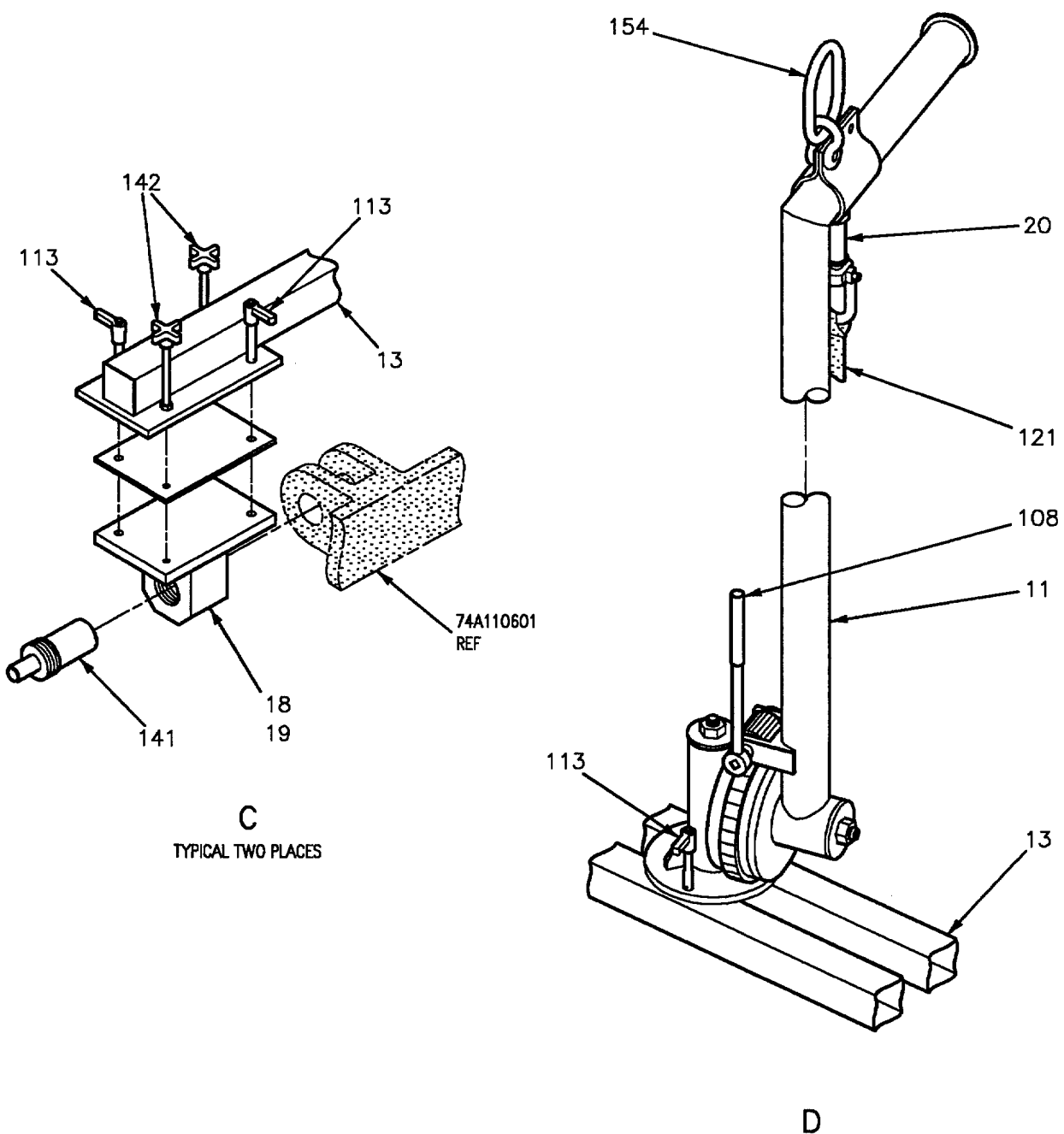
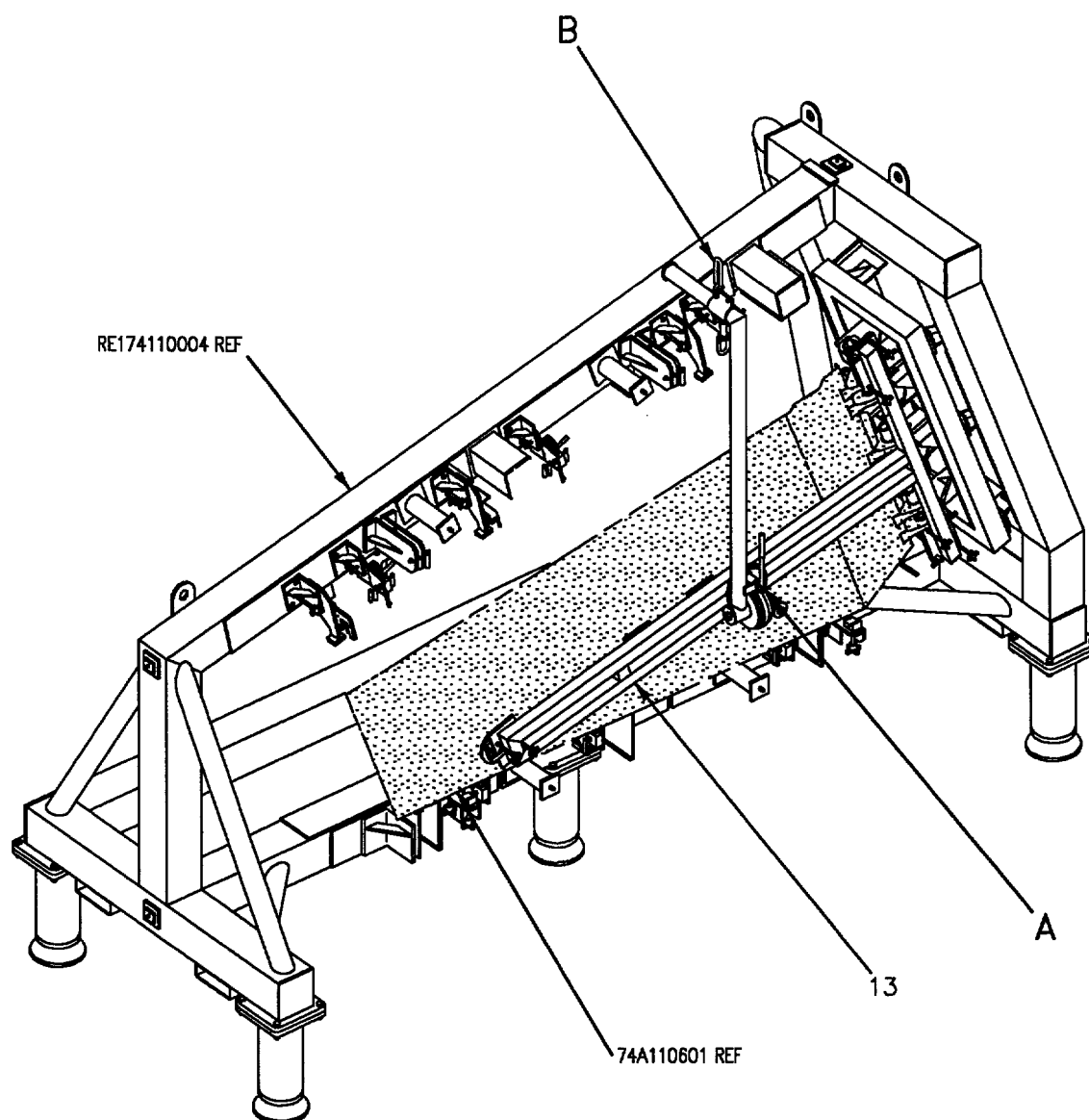


Figure 2. Attaching Hoisting Adapter to 74A110601 Lower Skin (Sheet 3)

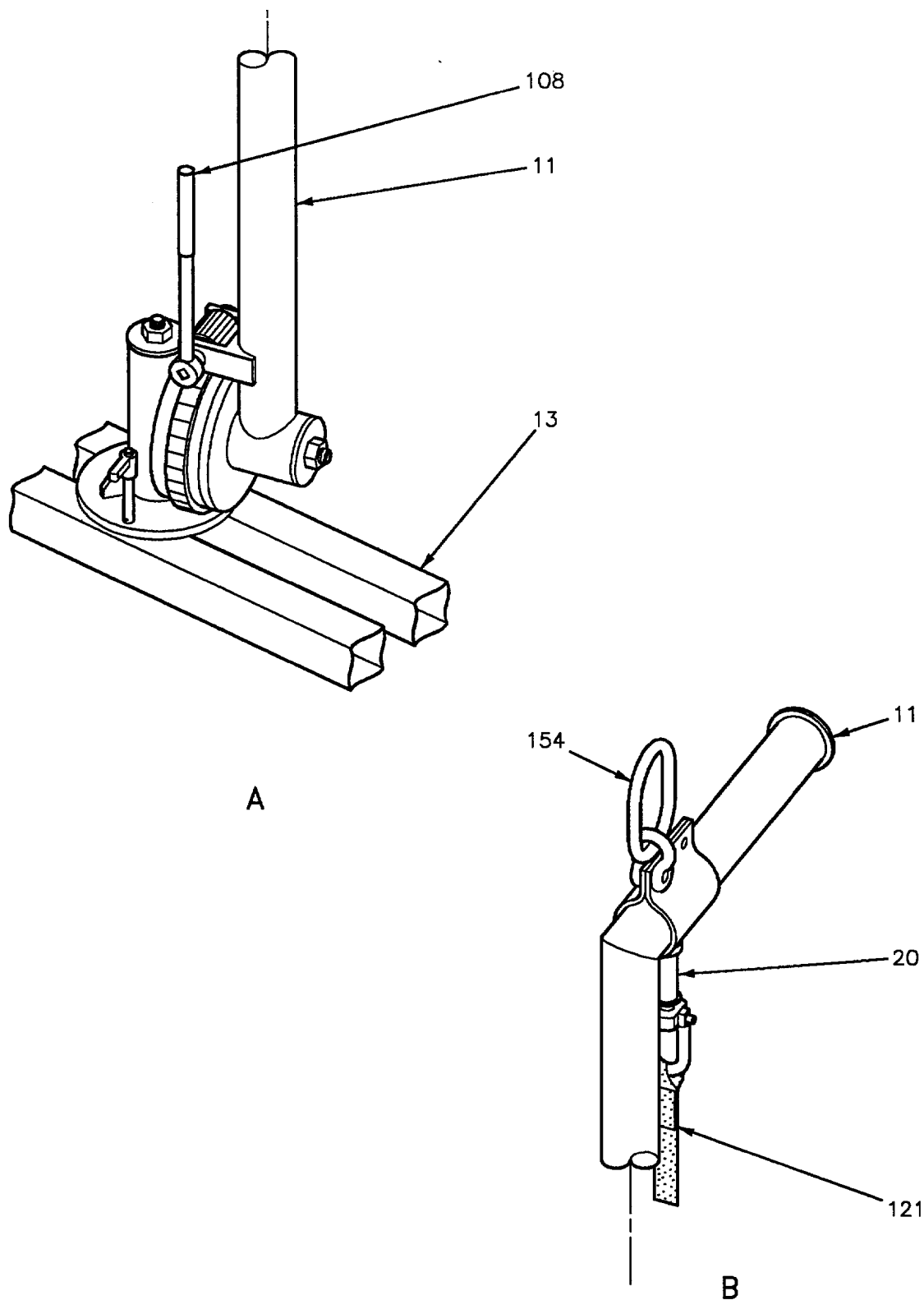
Detail No.	Name	Function
Subassembly C	Locator	For right skin, installs in outboard pylon hole.
Subassembly D	Locator	For left skin, installs in outboard pylon hole.
Subassembly E	Locator	For right skin, installs in inboard pylon hole.
Subassembly F	Locator	For left skin, installs in inboard pylon hole.
11	Hoist Bar	Part of adapter that attaches to the hoist.
13	Frame	Main part of adapter that supports skin at attach points.
14	Plate	Attaches to subassemblies E or F and adapter to lift skin.
18, 19	Weld Assembly	Attaches to wing skin forward/aft lugs to lift skin.
20	Keeper Pin	Secures hoist ring to hoist bar at center of gravity.
103	Hand Knob	Secures frame to angle at center of gravity.
108	Ratchet	Adjusts hoist adapter for horizontal or vertical attachment to wing skin.
111, 112	Hand Knob	Attaches angle to plate to lift skin.
113	L-Pin	Locates various details to adapter.
115	L-Pin	Locates and attaches frame to angle.
120	Angle	Attaches frame to angle for left skin.
121	Pull Strap	Engages/disengages keeper pin in hoist bar.
125	Plate	Installs in outboard pylon hole to secure skin to adapter.
126	Threaded Pin	Connects plate (detail 125) to subassemblies C and D.
127	Threaded Pin	Connects plate (detail 15) to subassembly E or F.
132	Pin	Attaches plate (detail 14) to angle (detail 137) to lift skin.
137	Angle	Attaches frame to plate (detail 14) to lift skin.
139	Angle	Attaches frame to plate (detail 125) to lift skin.
141	Attach Fitting Pin	Installs through weld assemblies into attach fitting lugs.
142	Hand Knob	Secures frame to weld assemblies (details 18 and 19).
154	Hoist Ring	Attaches hoist adapter to hoist.

Figure 2. Attaching Hoisting Adapter to 74A110601 Lower Skin (Sheet 4)



03040301

Figure 3. Loading Skin into RE174110004, Inner Wing Maintenance Fixture (Sheet 1)



03040302

Figure 3. Loading Skin into RE174110004, Inner Wing Maintenance Fixture (Sheet 2)

Detail No.	Name	Function
11	Hoist Bar	Part of adapter that attaches to the hoist.
20	Keeper Pin	Secures hoist ring to hoist bar at center of gravity.
108	Ratchet	Adjusts hoist adapter for horizontal or vertical attachment to wing skin.
121	Pull Strap	Engages/disengages keeper pin in hoist bar.
154	Hoist Ring	Attaches hoist adapter to hoist.

**Figure 3. Locating Skin into RE174110004, Inner Wing Maintenance Fixture
(Sheet 3)**

DEPOT MAINTENANCE**STRUCTURE REPAIR****INNER WING SKIN DRILL PLATE****RE674110004-1, -2****Reference Material**

Structure Repair, Wing	A1-F18AC-SRM-210
Upper Inner Wing Skin Fasteners	WP003 01
Lower Inner Wing Skin Fasteners	WP003 02
Inner Wing Maintenance Fixture, RE174110004-1, -2 Loading Inner Wing	WP004 01
Inner Wing Maintenance Fixture, RE174110004-1, -2 Repairs	WP004 02
Structure Repair, General Information	A1-F18AC-SRM-200
Accessory Kits and Spray Mist Coolant Tank	WP004 16

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Drilling Holes in 74A110600 Upper Skin and Substructure	11
Drilling Holes in 74A110600 Upper Skin Substructure	7
Drilling Holes in 74A110601 Lower Skin	2
Drilling Holes in 74A110601 Lower Skin and Substructure	9
Drilling Holes in 74A110601 Lower Skin Substructure	6
Drilling Holes in 74A110954 Lower Skin Panel	13
Drilling Holes in 74A110953 Hinge Half Assembly	12

Record of Applicable Technical Directives

None

1. DESCRIPTION.

2. The inner wing shall be installed in the RE174110004 Inner Wing Maintenance Fixture to use the inner wing drill plates. The drill plates for replaceable 74A110600 upper skin and 74A110601 lower skin shall be used to locate the attach hole pattern in skins

and/or mating substructure. The drill plates contain high temperature fiberglass bonded assemblies. Hole boards are provided to show holes, hole numbers, hole diameters, repair numbers, and material of skin and substructure. Repair numbers on the hole boards are color coded to coincide with bonded assemblies and applicable repair number work package in Structure Repair, General Information (A1-F18AC-SRM-200).

Table 1. Details of RE374000002 Used For Pinning Index Holes






























Hole Number	Hole Dia.	Step Pin Detail No.	Potted Bushing Detail No.
35 	0.2495	126	121
37 	0.2495	126	121
83 	0.3125	119	121
96 	0.3120	119	121
99 	0.3120	119	121
118 	0.3120	119	121
123 	0.3120	119	121
128 	0.3120	119	121
193 	0.2500	126	121
206 	0.2500	126	121
264 	0.2495	126	121
299 	0.3125	119	121
303 	0.2500	126	121
343 	0.2495	126	121
379 	0.2495	126	121
424 	0.2495	126	121
486 	0.3125	119	121
731 	0.2495	126	121
990 	0.3125	119	121
1031 	0.2495	126	121
1068 	0.3125	119	121
1076 	0.3125	119	121

Table 1. Details of RE374000002 Used For Pinning Index Holes (Continued)

Hole Number	Hole Dia.	Step Pin Detail No.	Potted Bushing Detail No.
1083 	0.3125	119	121
1104 	0.3120	119	121
LEGEND  Lower skin, sequence A bonded assembly.  Lower skin, sequence B bonded assembly.  Upper skin, sequence R bonded assembly.  Upper skin, sequence S bonded assembly.  Lower skin, sequence AD and AE bonded assemblies.			

Support Equipment Required

Part Number or Type Designation

Nomenclature

RE374000002

Accessory Kit-Plate
Sets, Hole Locating

Materials Required

Specification or Part Number

Nomenclature

Cerroband

Solder, Wire

3. DRILLING HOLES IN 74A110601 LOWER

SKIN. See figures 1 and 2. These procedures are for drilling holes in replacement skins, or for oversizing existing holes in skins.

a. Remove damaged skin from inner wing structure.

b. Clean structure surfaces where skin mated.

c. Load wing structure into RE174110004 (RE1) Inner Wing Maintenance Fixture (WP004 01).

d. Select and install RE374000002 dummy fasteners into all substructure fastener holes to be drilled.

e. Attach hoist to sequence A bonded assembly (detail 11) at hoist rings (detail 223), figure 1, view A.

f. Hoist bonded assembly into approximate position in maintenance fixture next to structure, view A.

g. Attach bonded assembly to maintenance fixture by inserting L-pin (detail 560) of RE1 through clevis (detail J7) of RE1 and hinge halves (detail 226 and 227), view B.

h. Install L-pin (detail 102) through hinge half (detail 12) into bracket (detail 659) of RE1, view C.

i. Before removing hoist, support bonded assembly by turning hand knobs (details 138 and 139) of RE1 and engaging bonded assembly support (detail 140) of RE1, 2 places, to relieve stress from L-pins (detail 560) of RE1, view D.

j. Tighten skin thickness adapters (details 194 thru 201) on bonded assembly to simulate thickness of skin, figure 2, view C.

k. Clamp around periphery of bonded assembly and structure in maintenance fixture to secure in place.

l. Install applicable RE374000002 step pins and bushings through bonded assembly holes and into dummy fasteners in substructure, view D.



Solder, Wire

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m. Pot bushings in bonded assembly using melted cerrobend, with a minimum of 75% fill per Hole Locating Plate Set Accessory Kit (A1-F18AC-SRM-200, WP004 16), view D.

n. Attach hoist and remove sequence A bonded assembly (detail 11).

o. Repeat steps e through m for sequence B bonded assembly (detail 13).

p. Attach hoist and remove sequence B bonded assembly (detail 13).

q. For sequence C thru P bonded assemblies, as required:

(1) Tighten skin thickness adapters on bonded assembly to simulate thickness of skin, view C.

(2) Locate bonded assembly in approximate position on wing structure.

(3) Secure bonded assembly to wing structure at clamping holes (marked CH) using bolts, nuts and washers, view E.

NOTE

Dummy fasteners were previously installed in wing structure.

(4) Install applicable RE374000002 step pins and bushings through bonded assembly holes and into dummy fasteners, view D.

(5) Pot bushings in bonded assembly using melted cerrobend, with a minimum of 75% fill per Hole Locating Plate Set Accessory Kit (A1-F18AC-SRM-200, WP004 16), view D.

(6) Remove bonded assembly from wing structure.

(7) Repeat steps q(1) thru q(6) for remaining bonded assemblies.

r. Install replacement lower skin panel on wing structure per Locating Upper and Lower Skins (WP065 00).

s. Retract skin thickness adapters (detail 194 thru 201) on bonded assembly to allow bonded assembly to contact replacement skin, view F.

t. Install sequence A bonded assembly (detail 11) per steps e thru i.

u. Clamp around periphery of a bonded assembly and structure in maintenance fixture to secure in place.

v. Drill pilot holes at several locations around bonded assembly, to act as key-holes, using applicable hole board and applicable repair number in Structure Repair, General Information (A1-F18AC-SRM-200).

w. Attach hoist and remove sequence A bonded assembly (detail 11).

x. Remove lower skin panel per Locating Upper and Lower Skins (WP004 02).

y. Place lower skin panel and sequence A bonded assembly (detail 11) on a work surface or in a depot furnished holding device. Place a backup device behind skin panel.

z. Key lower skin panel to sequence A bonded assembly (detail 11) by installing applicable RE374000002 pilot size step pins through bonded assembly and into skin panel pilot holes, view G.

aa. Clamp around periphery of bonded assembly, skin panel, and backup device to secure for drilling.

ab. Drill and ream all holes full size in skin panel using applicable hole board and applicable repair number work package in Structure Repair, General Information (A1-F18AC-SRM-200).

ac. Remove sequence A bonded assembly (detail 11) from skin panel and work surface or holding device.

ad. Repeat steps y thru ab for sequence B bonded assembly (detail 13).

ae. Remove sequence B bonded assembly (detail 13) from skin panel and work surface or holding device.

af. For sequence C thru P bonded assemblies, as required:

(1) Retract skin thickness adapters on bonded assembly to allow bonded assembly to contact lower skin panel, view F.

(2) Position bonded assembly on lower skin panel and pin in place at index holes (marked IH) using RE374000002 step pins per Table 1, view H.

(3) Secure bonded assembly to lower skin panel at clamping holes (marked CH) using bolts, nuts and washers, view E.

(4) Drill and ream all holes full size in skin panel using applicable hole board and applicable repair number work package in Structure Repair, General Information (A1-F18AC-SRM-200).

(5) Remove bonded assembly from lower skin panel.

(6) Repeat steps af(1) thru af(5) for remaining bonded assemblies.

ag. Countersink holes in lower skin panel per Aircraft Structure Repair Tool Kit (A1-F18AC-SRM-200, WP004 16).

ah. Clean loose materials from lower skin panel and wing structure area.

ai. Install wing skin. For fasteners and attaching hardware (WP003 02).

4. DRILLING HOLES IN 74A110600 UPPER

SKIN. See figures 1 and 2. These procedures are for drilling holes in replacement skins, or for oversizing existing holes in skins.

a. Remove damaged skin from inner wing structure.

b. Clean structure surfaces where skin mated.

c. Load wing structure into RE174110004 (RE1 Inner Wing Maintenance Fixture (WP004 01).

d. Select and install RE374000002 dummy fasteners into all substructure fastener holes to be drilled.

e. Attach hoist to sequence R bonded assembly (detail 36) at hoist rings (detail 223), figure 1, view A.

f. Hoist bonded assembly into approximate position in maintenance fixture next to structure, view A.

g. Attach bonded assembly (detail 36) to maintenance fixture by inserting L-pin (detail 231), 2 places through clevis (detail 594 and 595) of RE1 and hinge halves (detail 48), 2 places, view F.

h. Slide bonded assembly (detail 36) into position next to upper skin.

i. Install L-pin (detail 102) through hinge half (detail 38) into bracket (detail 659) of RE1, view G.

j. Before removing hoist, support bonded assembly by turning hand knobs (details 138 and 139) of RE1 and engaging bonded assembly support (detail 140) of RE1, 2 places, to relieve stress from L-pins (detail 231) of RE1, view E.

k. Tighten skin thickness adapters (details 194 thru 201) on bonded assembly to simulate thickness of skin, figure 2, view C.

l. Clamp around periphery of bonded assembly and structure in maintenance fixture to secure in place.

m. Install applicable RE374000002 step pins and bushings through bonded assembly holes and into dummy fasteners in substructure, view D.



Solder, Wire

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n. Pot bushings in bonded assembly using melted cerrobend, with a minimum of 75% fill per Hole Locating Plate Set Accessory Kit (A1-F18AC-SRM-200, WP004 16), view D.

o. Attach hoist and remove sequence R bonded assembly (detail 36).

p. Repeat steps e through n for sequence S bonded assembly (detail 37).

q. Attach hoist and remove sequence S bonded assembly (detail 37).

r. For sequence T thru AE bonded assemblies, as required:

(1) Tighten skin thickness adapters on bonded assembly to simulate thickness of skin, view C.

(2) Locate bonded assembly in approximate position on wing structure.

(3) Secure bonded assembly to wing structure at clamping holes (marked CH) using bolts, nuts and washers, view E.

NOTE

Dummy fasteners were previously installed in wing structure.

(4) Install applicable RE374000002 step pins and bushings through bonded assembly holes and into dummy fasteners, view D.

(5) Pot bushings in bonded assembly using melted cerrobend, with a minimum of 75% fill per Hole Locating Plate Set Accessory Kit (A1-F18AC-SRM-200, WP004 16), view D.

(6) Remove bonded assembly from wing structure.

(7) Repeat steps r (1) thru r (6) for remaining bonded assemblies.

s. Install replacement upper skin panel on wing structure per Locating Upper and Lower Skins (WP004 02).

t. Retract skin thickness adapters (detail 194 thru 201) on bonded assembly to allow bonded assembly to contact replacement skin, view F.

u. Install sequence R bonded assembly (detail 36) per steps e thru j.

v. Clamp around periphery of a bonded assembly and structure in maintenance fixture to secure in place.

w. Drill pilot holes at several locations around bonded assembly, to act as key-holes, using applicable hole board and applicable repair number in Structure Repair, General Information (A1-F18AC-SRM-200).

x. Attach hoist and remove sequence R bonded assembly (detail 36).

y. Remove upper skin panel per Locating Upper and Lower Skins (WP004 02).

z. Place upper skin panel and sequence R bonded assembly (detail 36) on a work surface or in a depot furnished holding device. Place a backup device behind skin panel.

aa. Key upper skin panel to sequence R bonded assembly (detail 36) by installing applicable RE374000002 pilot size step pins through bonded assembly and into skin panel pilot holes, view G.

ab. Clamp around periphery of bonded assembly, skin panel, and backup device to secure for drilling.

ac. Drill and ream all holes full size in skin panel using applicable hole board and applicable repair number work package in Structure Repair, General Information (A1-F18AC-SRM-200).

ad. Remove sequence R bonded assembly (detail 36) from skin panel and work surface or holding device.

ae. Repeat steps z thru ac for sequence S bonded assembly (detail 37).

af. Remove sequence S bonded assembly (detail 37) from skin panel and work surface or holding device.

ag. For sequence T thru AE bonded assemblies, as required:

(1) Retract skin thickness adapters on bonded assembly to allow bonded assembly to contact upper skin panel, view F.

(2) Position bonded assembly on upper skin panel and pin in place at index holes (marked IH) using RE374000002 step pins per table 1, view H.

(3) 12 Secure bonded assembly to upper skin panel at clamping holes (marked CH) using bolts, nuts and washers, view E.

(4) Drill and ream all holes full size in skin panel using applicable hole board and applicable repair number work package in Structure Repair, General Information (A1-F18AC-SRM-200).

(5) Remove bonded assembly from lower skin panel.

(6) Repeat steps ag (1) thru ag (5) for remaining bonded assemblies.

ah. Countersink holes in lower skin panel per Aircraft Structure Repair Tool Kit (A1-F18AC-SRM-200, WP004 16).

ai. Clean loose materials from upper skin panel and wing structure area.

WARNING

Be careful installing upper skin fasteners. Skin must be removed and attaching hardware replaced if nut element is loosened or broken during fastener installation. Follow the installation sequence to reduce the probability of, and the amount of, fasteners to be removed.

aj. Install wing skin. For fasteners and attaching hardware (WP003 01). Install fasteners per sequence below:

- (1) Kick rib area.
- (2) Leading edge flap transmission area.
- (3) Wing fold rib area.
- (4) Other fasteners.

5. DRILLING HOLES IN 74A110601 LOWER SKIN SUBSTRUCTURE. See figure 1 and 2. These procedures are for drilling holes in replacement structure, or for oversizing existing holes in structure.

a. Load wing structure into RE174110004 (RE1) Inner Wing Maintenance Fixture (WP004 01).

b. Remove skin from inner wing structure.

c. Remove and replace damaged structure (WP004 02).

d. Locate lower skin panel in place on wing per Locating Upper and Lower Skins (WP004 02).

e. Attach hoist to sequence A bonded assembly (detail 11) at hoist rings (detail 223), figure 1, view A.

f. Hoist bonded assembly into approximate position in maintenance fixture next to lower skin panel, view A.

g. Attach bonded assembly to maintenance fixture by inserting L-pin (detail 560) of RE1 through clevis (detail J7) of RE1 and hinge halves (detail 226 and 227), view B.

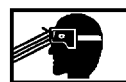
h. Install L-pin (detail 102) through hinge half (detail 12) into bracket (detail 659) of RE1, view C.

i. Before removing hoist, support bonded assembly by turning hand knobs (details 138 and 139) of RE1 and engaging bonded assembly support (detail 140) of RE1, 2 places, to relieve stress from L-pins (detail 560) of RE1, view D.

j. Retract skin thickness adapters (details 194 thru 201) on bonded assembly to allow bonded assembly to contact lower skin panel, figure 2, view F.

k. Clamp around periphery of bonded assembly and structure in maintenance fixture to secure in place.

l. Install applicable RE374000002 step pins and bushings through bonded assembly holes and into holes in skin, view D.



Solder, Wire

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m. Pot bushings in bonded assembly using melted cerrobend, with a minimum of 75% fill per Hole Locating Plate Set Accessory Kit (A1-F18AC-SRM-200, WP004 16), view D.

n. Attach hoist and remove sequence A bonded assembly (detail 11).

o. Repeat steps e through m for sequence B bonded assembly (detail 13).

p. Attach hoist and remove sequence B bonded assembly (detail 13).

q. For sequence C thru P bonded assemblies, as required:

(1) Retract skin thickness adapters on bonded assembly to allow bonded assembly to contact lower skin panel, view F.

(2) Position bonded assembly in approximate position on lower skin panel.

(3) Locate bonded assembly to wing skin at index holes (marked IH) using applicable RE374000002 index pins, per table 1, view H.

(4) Secure bonded assembly to wing skin at clamping holes (marked CH) using bolts, nuts and washers, view E.

(5) Install applicable RE374000002 step pins and bushings through bonded assembly holes and into holes in skin, view D.

(6) Pot bushings in bonded assembly using melted cerrobend, with a minimum of 75% fill per Hole Locating Plate Set Accessory Kit (A1-F18AC-SRM-200, WP004 16), view D.

(7) Remove bonded assembly from wing structure.

(8) Repeat steps q (1) thru q (7) for remaining bonded assemblies.

r. Remove lower skin panel from wing per Locating Upper and Lower Skins (WP004 02).

s. Tighten skin thickness adapters (detail 194 thru 201) on bonded assembly to simulate thickness of skin, view C.

t. Install sequence A bonded assembly (detail 11) per steps e thru i.

u. Clamp around periphery of a bonded assembly and structure in maintenance fixture to secure in place.

v. Drill and ream all holes full size in structure using applicable hole board and applicable repair number work package in Structure Repair, General Information (A1-F18AC-SRM-200).

w. Attach hoist and remove sequence A bonded assembly (detail 11).

x. Repeat steps s thru w for sequence B bonded assembly (detail 13).

y. Attach hoist and remove sequence B bonded assembly (detail 13).

z. For sequence C thru P bonded assemblies, as required:

(1) Tighten skin thickness adapters on bonded assembly to simulate thickness of skin, view C.

(2) Position bonded assembly on structure and pin in place at index holes (marked IH) using RE374000002 step pins per table 1, view H.

(3) Secure bonded assembly to wing skin at clamping holes (marked CH) using bolts, nuts and washers, view E.

(4) Drill and ream all holes full size in structure using applicable hole board and applicable repair number work package in Structure Repair, General Information (A1-F18AC-SRM-200).

(5) Remove bonded assembly from lower skin panel.

(6) Repeat steps z (1) thru z (5) for remaining bonded assemblies.

aa. Install attaching hardware (WP003 02).

ab. Clean loose materials from lower skin panel and wing structure area.

ac. Install wing skin. For fasteners and attaching hardware (WP003 02).

6. DRILLING HOLES IN 74A110600 UPPER SKIN SUBSTRUCTURE. See figure 1 and 2. These procedures are for drilling holes in replacement structure, or for oversizing existing holes in structure.

a. Load wing structure into RE174110004 (RE1 Inner Wing Maintenance Fixture (WP004 01).

b. Remove skin from inner wing structure.

c. Remove and replace damaged structure (WP004 02).

d. Locate upper skin panel in place on wing per Locating Upper and Lower Skins (WP004 02).

e. Attach hoist to sequence R bonded assembly (detail 36) at hoist rings (detail 223), figure 1, view A.

f. Hoist bonded assembly into approximate position in maintenance fixture next to upper skin panel, view A.

g. Attach bonded assembly (detail 36) to maintenance fixture by inserting L-pin (detail 231), 2 places through clevis (detail 594 and 595) of RE1 and hinge halves (detail 48), 2 places, view F.

h. Slide bonded assembly (detail 36) into position next to upper skin.

i. Install L-pin (detail 102) through hinge half (detail 38) into bracket (detail 659) of RE1, view G.

j. Before removing hoist, support bonded assembly by turning hand knobs (details 138 and 139) of RE1 and engaging bonded assembly support (detail 140) of RE1, 2 places, to relieve stress from L-pins (detail 231) of RE1, view E.

k. Retract skin thickness adapters (details 194 thru 201) on bonded assembly to allow bonded assembly to contact upper skin panel, figure 2, view F.

l. Clamp around periphery of bonded assembly and structure in maintenance fixture to secure in place.

m. Install applicable RE374000002 step pins and bushings through bonded assembly holes and into holes in skin, view D.



Solder, Wire



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n. Pot bushings in bonded assembly using melted cerrobend, with a minimum of 75% fill per Hole Locating Plate Set Accessory Kit (A1-F18AC-SRM-200, WP004 16), view D.

o. Attach hoist and remove sequence R bonded assembly (detail 36).

p. Repeat steps e through n for sequence S bonded assembly (detail 37).

q. Attach hoist and remove sequence S bonded assembly (detail 37).

r. For sequence T thru AE bonded assemblies, as required:

(1) Retract skin thickness adapters on bonded assembly to allow bonded assembly to contact upper skin panel, view F.

(2) Position bonded assembly in approximate position on upper wing panel.

(3) Locate bonded assembly to wing skin at index holes (marked IH) using applicable RE374000002 index pins, per Table 1, view H.

(4) Secure bonded assembly to wing skin at clamping holes (marked CH) using bolts, nuts and washers, view E.

(5) Install applicable RE374000002 step pins and bushings through bonded assembly holes and into holes in skin, view D.

(6) Pot bushings in bonded assembly using melted cerrobend, with a minimum of 75% fill per Hole Locating Plate Set Accessory Kit (A1-F18AC-SRM-200, WP004 16), view D.

(7) Remove bonded assembly from wing skin.

(8) Repeat steps r (1) thru r (7) for remaining bonded assemblies.

s. Remove upper skin panel from wing per Locating Upper and Lower Skins (WP004 02).

t. Tighten skin thickness adapters (detail 194 thru 201) on bonded assembly to simulate thickness of skin, view C.

u. Install sequence R bonded assembly (detail 36) per steps e thru j.

v. Clamp around periphery of a bonded assembly and structure in maintenance fixture to secure in place.

w. Drill and ream all holes full size in structure using applicable hole board and applicable repair number work package in Structure Repair, General Information (A1-F18AC-SRM-200).

x. Attach hoist and remove sequence R bonded assembly (detail 36).

y. Repeat steps t thru x for sequence S bonded assembly (detail 37).

z. Attach hoist and remove sequence S bonded assembly (detail 37).

aa. For sequence T thru AE bonded assemblies, as required:

(1) Tighten skin thickness adapters on bonded assembly to simulate thickness of skin, view C.

(2) Position bonded assembly on structure and pin in place at index holes (marked IH) using RE374000002 step pins per Table 1, view H.

(3) Secure bonded assembly to structure at clamping holes (marked CH) using bolts, nuts and washers, view E.

(4) Drill and ream all holes full size in structure using applicable hole board and applicable repair number work package in Structure Repair, General Information (A1-F18AC-SRM-200).

(5) Remove bonded assembly from lower skin panel.

(6) Repeat steps aa (1) thru aa (5) for remaining bonded assemblies.

ab. Install attaching hardware (WP003 01).

ac. Clean loose materials from upper skin panel and wing structure area.

WARNING

Be careful installing upper skin fasteners. Skin must be removed and attaching hardware replaced if nut element is loosened or broken during fastener installation. Follow the installation sequence to reduce the probability of, and the amount of, fasteners to be removed.

ad. Install wing skin. For fasteners and attaching hardware (WP003 01). Install fasteners per sequence below:

(1) Kick rib area.

(2) Leading edge flap transmission area.

(3) Wing fold rib area.

(4) Other fasteners.

7. DRILLING HOLES IN 74A110601 LOWER SKIN AND SUBSTRUCTURE. See figures 1 and 2. These procedures are for drilling holes in replacement skin and structure, or for oversizing existing holes in skin and structure.

a. Load wing structure into RE174110004 (RE1) Inner Wing Maintenance Fixture (WP004 01).

b. Remove skin from inner wing structure.

c. Remove and replace damaged structure (WP004 02).

d. Layout fastener pattern on substructure. Inspect marked hole locations for correct edge distance.

e. Hand drill pilot hole pattern in structure.

f. Attach hoist to sequence A bonded assembly (detail 11) at hoist rings (detail 223), figure 1, view A.

g. Hoist bonded assembly into approximate position in maintenance fixture next to structure skin panel, view A.

h. Attach bonded assembly to maintenance fixture by inserting L-pin (detail 560) of RE1 through clevis (detail J7) of RE1 and hinge halves (detail 226 and 227), view B.

i. Install L-pin (detail 102) through hinge half (detail 12) into bracket (detail 659) of RE1, view C.

j. Before removing hoist, support bonded assembly by turning hand knobs (details 138 and 139) of RE1 and engaging bonded assembly support (detail 140) of RE1, 2 places, to relieve stress from L-pins (detail 560) of RE1, view D.

k. Tighten skin thickness adapters (details 194 thru 201) on bonded assembly to simulate thickness of skin, figure 2, view C.

l. Clamp around periphery of bonded assembly and structure in maintenance fixture to secure in place.

m. Install applicable RE374000002 pilot size step pins and bushings through bonded assembly holes and into pilot holes in structure, view J.



Solder, Wire

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n. Pot bushings in bonded assembly using melted cerrobend, with a minimum of 75% fill per Hole Locating Plate Set Accessory Kit (A1-F18AC-SRM-200, WP004 16), view J.

o. Attach hoist and remove sequence A bonded assembly (detail 11).

p. Repeat steps e through m for sequence B bonded assembly (detail 13).

q. Attach hoist and remove sequence B bonded assembly (detail 13).

r. For sequence C thru P bonded assemblies, as required:

(1) Tighten skin thickness adapters on bonded assembly to simulate thickness of skin, view C.

(2) Position bonded assembly in approximate position on structure.

(3) Locate bonded assembly on wing structure at index holes (marked IH) using applicable RE374000002 index pins, per table 1, view H.

(4) Secure bonded assembly to wing structure at clamping holes (marked CH) using bolts, nuts and washers, view E.

(5) Install applicable RE374000002 step pins and bushings through bonded assembly holes and into holes in structure, view H.

(6) Pot bushings in bonded assembly using melted cerrobend, with a minimum of 75% fill per Hole Locating Plate Set Accessory Kit (A1-F18AC-SRM-200, WP004 16), view H.

(7) Remove bonded assembly from wing structure.

(8) Repeat steps r (1) thru r (7) for remaining bonded assemblies.

s. Locate lower skin panel in place on wing per Locating Upper and Lower Skins (WP004 02).

t. Retract skin thickness adapters (detail 194 thru 201) on bonded assembly to allow bonded assembly to contact lower skin panel, view F.

u. Install sequence A bonded assembly (detail 11) per steps e thru i.

v. Clamp around periphery of a bonded assembly and structure in maintenance fixture to secure in place.

w. Drill and ream all holes full size in skin and structure using applicable hole board and applicable repair number work package in Structure Repair, General Information (A1-F18AC-SRM-200).

x. Attach hoist and remove sequence A bonded assembly (detail 11).

y. Repeat steps s thru w for sequence B bonded assembly (detail 13).

z. Attach hoist and remove sequence B bonded assembly (detail 13).

aa. For sequence C thru P bonded assemblies, as required:

(1) Retract skin thickness adapters on bonded assembly to allow bonded assembly to contact lower skin panel, view F.

(2) Position bonded assembly on lower skin panel structure and pin in place at index holes (marked IH) using RE374000002 step pins per table 1, view H.

(3) Secure bonded assembly to wing skin at clamping holes (marked CH) using bolts, nuts and washers, view E.

(4) Drill and ream all holes full size in structure using applicable hole board and applicable repair number work package in Structure Repair, General Information (A1-F18AC-SRM-200).

(5) Remove bonded assembly from lower skin panel.

(6) Repeat steps aa (1) thru aa (5) for remaining bonded assemblies.

ab. Remove lower skin panel from wing per Locating Upper and Lower Skin (WP004 02).

ac. Countersink holes in lower skin panel per Aircraft Structure Repair Tool Kit (A1-F18AC-SRM-200, WP004 16).

ad. Install attaching hardware (WP003 02).

ae. Clean loose materials from lower skin panel and wing structure area.

af. Install wing skin. For fasteners and attaching hardware (WP003 02).

8. DRILLING HOLES IN 74A110600 UPPER SKIN AND SUBSTRUCTURE. See figures 1 and 2. These procedures are for drilling holes in replacement skin and structure, or for oversizing existing holes in skin and structure.

a. Load wing structure into RE174110004 (RE1) Inner Wing Maintenance Fixture (WP004 01).

b. Remove skin from inner wing structure.

c. Remove and replace damaged structure (WP004 02).

d. Layout fastener pattern on substructure. Inspect marked hole locations for correct edge distance.

e. Hand drill pilot hole pattern in structure.

f. Attach hoist to sequence R bonded assembly (detail 36) at hoist rings (detail 223), figure 1, view A.

g. Hoist bonded assembly into approximate position in maintenance fixture next to structure, view A.

h. Attach bonded assembly (detail 36) to maintenance fixture by inserting L-pin (detail 231), 2 places through clevis (detail 594 and 595) of RE1 and hinge halves (detail 48), 2 places, view F.

i. Slide bonded assembly (detail 36) into position next to upper skin.

j. Install L-pin (detail 102) through hinge half (detail 38) into bracket (detail 659) of RE1, view G.

k. Before removing hoist, support bonded assembly by turning hand knobs (details 138 and 139) of RE1 and engaging bonded assembly support (detail 140) of RE1, 2 places, to relieve stress from L-pins (detail 560) of RE1, view E.

l. Tighten skin thickness adapters (details 194 thru 201) on bonded assembly to simulate thickness of skin, figure 2, view C.

m. Clamp around periphery of bonded assembly and structure in maintenance fixture to secure in place.

n. Install applicable RE374000002 pilot size step pins and bushings through bonded assembly holes and into pilot holes in structure, view J.



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o. Pot bushings in bonded assembly using melted cerrobend, with a minimum of 75% fill per Hole Locating Plate Set Accessory Kit (A1-F18AC-SRM-200, WP004 16), view J.

p. Attach hoist and remove sequence R bonded assembly (detail 36).

q. Repeat steps e through n for sequence S bonded assembly (detail 37).

r. Attach hoist and remove sequence S bonded assembly (detail 37).

s. For sequence T thru AE bonded assemblies, as required:

(1) Tighten skin thickness adapters on bonded assembly to simulate thickness of skin, view C.

(2) Position bonded assembly in approximate position on structure.

(3) Locate bonded assembly on wing structure at index holes (marked IH) using applicable RE374000002 index pins, per Table 1, view H.

(4) Secure bonded assembly to wing structure at clamping holes (marked CH) using bolts, nuts and washers, view E.

(5) Install applicable RE374000002 step pins and bushings through bonded assembly holes and into holes in structure, view H.

(6) Pot bushings in bonded assembly using melted cerrobend, with a minimum of 75% fill per Hole Locating Plate Set Accessory Kit (A1-F18AC-SRM-200, WP004 16), view H.

(7) Remove bonded assembly from wing skin.

(8) Repeat steps s (1) thru s (7) for remaining bonded assemblies.

t. Locate upper skin panel in place on wing per Locating Upper and Lower Skins (WP004 02).

u. Retract skin thickness adapters (detail 194 thru 201) on bonded assembly to allow bonded assembly to contact upper skin panel, view F.

v. Install sequence R bonded assembly (detail 36) per steps e thru j.

w. Clamp around periphery of a bonded assembly and structure in maintenance fixture to secure in place.

x. Drill and ream all holes full size in skin and structure using applicable hole board and applicable repair number work package in Structure Repair, General Information (A1-F18AC-SRM-200).

y. Attach hoist and remove sequence R bonded assembly (detail 36).

z. Repeat steps t thru x for sequence S bonded assembly (detail 37).

aa. Attach hoist and remove sequence S bonded assembly (detail 37).

ab. For sequence T thru AE bonded assemblies, as required:

(1) Retract skin thickness adapters on bonded assembly to allow bonded assembly to contact upper skin panel, view F.

(2) Position bonded assembly on structure and pin in place at index holes (marked IH) using RE374000002 step pins per Table 1, view H.

(3) Secure bonded assembly to structure at clamping holes (marked CH) using bolts, nuts and washers, view E.

(4) Drill and ream all holes full size in structure using applicable hole board and applicable repair number work package in Structure Repair, General Information (A1-F18AC-SRM-200).

(5) Remove bonded assembly from lower skin panel.

(6) Repeat steps ab(1) thru ab(5) for remaining bonded assemblies.

ac. Remove upper skin panel from wing per Locating Upper and Lower Skins (WP004 02).

ad. Countersink holes in upper skin panel per Aircraft Structure Repair Tool Kit (A1-F18AC-SRM-200, WP004 16).

ae. Install attaching hardware (WP003 01).

af. Clean loose materials from upper skin panel and wing structure area.

WARNING

Be careful installing upper skin fasteners. Skin must be removed and attaching hardware replaced if nut element is loosened or broken during fastener installation. Follow the installation sequence to reduce the probability of, and the amount of, fasteners to be removed.

ag. Install wing skin. For fasteners and attaching hardware (WP003 01). Install fasteners per sequence below:

- (1) Kick rib area.
- (2) Leading edge flap transmission area.
- (3) Wing fold rib area.
- (4) Other fasteners.

9. DRILLING HOLES IN 74A110953 HINGE HALF ASSEMBLY. See figure 3. These procedures are for drilling holes in replacement trailing edge flap hinge half, or for oversizing existing holes in hinge half. Upper skin is removed for this procedure.

Table 2. Details of RE374000002 Used For Pinning Drilled Holes

Hole Size	RE3 L-Pin Detail Number		
	Nominal	1st Oversize	2nd Oversize
0.2500	146	147	148
0.3125	149	150	151
0.3750	152	153	154
0.4375	158	159	160

- a. Load wing structure into RE174110004 (RE1) Inner Wing Maintenance Fixture (WP004 01).
- b. Install lower skin panel on wing structure per Locating Upper and Lower Skins (WP004 02).
- c. Locate 74A110953 hinge half in place on RE1 at locator (detail L7) of RE1, view A.
- d. Insert pin (detail 625) of RE1 through bushing (detail 373) of RE1, hinge half, and into bushing (detail 380) of RE1, view A.
- e. Tighten knurled nut (detail 374) of RE1 to make hinge half contact bushing (detail 380) of RE1, view A.
- f. Locate hinge half against surface of lower skin and clamp in place.
- g. Back-drill pilot size holes at the two farthest apart holes through structure, skin and into hinge half.
- h. Remove clamps, loosen knurled nut (detail 374) of RE1, remove pin (detail 625), and remove hinge half from RE1, view A.
- i. Separate the two parts of sequence AF bonded assembly (details 45 and 46) by loosening hand knobs (detail 234) and removing L-pins (detail 233), view B.
- j. Locate hinge half into sequence AF bonded assembly (details 45 and 46) and reinstall L-pins (detail 233) and hand knobs (detail 234), view B.
- k. Install applicable RE374000002 pilot size step pins and bushings through bonded assembly and into pilot holes in hinge half, view C.
- l. Pot bushings in bonded assembly using melted cerrobend, with a minimum of 75% fill per Hole Locating Plate Set Accessory Kit, (A1-F18AC-SRM-200, WP004 16), view C.
- m. Remove hinge half from sequence AF bonded assembly.
- n. Locate potted half of sequence AF bonded assembly (detail 45) in position on lower wing skin.
- o. Install applicable RE374000002 step pins through two bushed holes and into holes in skin, view D.

- p. Install applicable RE374000002 step pins and bushings through bonded assembly holes and into holes in skin, view D.



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- q. Pot bushings in bonded assembly using melted cerrobend, with a minimum of 75% fill per Hole Locating Plate Set Accessory Kit, (A1-F18AC-SRM-200, WP004 16), view D.
 - r. Remove sequence AF bonded assembly (detail 45) from wing skin.
 - s. Locate hinge half into sequence AF bonded assembly (details 45 and 46), view B.
 - t. Install applicable pilot size step pins through bonded assembly and into previously drilled pilot holes in hinge half, view C.
 - u. Install L-pins (detail 233) and hand knobs (detail 234), view B.
 - v. Drill and ream all holes full size in hinge half using applicable hole board and applicable repair number work package in Structure Repair, General Information (A1-F18AC-SRM-200). Install L-pins per Table 2, after drilling each hole, to prevent hinge half from shifting, view E.
 - w. Remove hinge half from sequence AF bonded assembly by removing step pins, and disassembling bonded assembly.
 - x. Install hinge half on wing per Locating Trailing Edge Flap Hinge Half Assemblies (WP004 02).
- 10. DRILLING HOLES IN 74A110954 LOWER SKIN PANEL.** See figures 1 and 2. These procedures are for drilling holes in replacement skins, or for oversizing existing holes in skins.
- a. Remove damaged skin from inner wing structure.
 - b. Clean structure surfaces where skin mated.
 - c. Load wing structure into RE174110004 (RE1) Inner Wing Maintenance Fixture (WP004 01).

d. Select and install RE374000002 dummy fasteners into all substructure fastener holes to be drilled.

e. Remove bonded assembly (detail 50) for left side, or (detail 52) for right side, from sequence A bonded assembly (detail 11) by removing screws from plates (details 239, 243 and 244), view K.

f. Remove bonded assembly (detail 51) from sequence B bonded assembly (detail 13) by removing screws from plates (details 248, 249 and 250), view L.

g. Attach hoist to sequence A bonded assembly (detail 11) at hoist rings (detail 223), figure 1, view A.

h. Hoist bonded assembly into approximate position in maintenance fixture next to structure, view A.

i. Attach bonded assembly to maintenance fixture by inserting L-pin (detail 560) of RE1 through clevis (detail J7) of RE1 and hinge halves (detail 226 and 227), view B.

j. Install L-pin (detail 102) through hinge half (detail 12) into bracket (detail 659) of RE1, view C.

k. Before removing hoist, support bonded assembly by turning hand knobs (details 138 and 139) of RE1 and engaging bonded assembly support (detail 140) of RE1, 2 places, to relieve stress from L-pins (detail 560) of RE1, view D.

l. Tighten skin thickness adapters (details 194 thru 201) on bonded assembly, in lower skin panel area, to simulate thickness of skin, figure 2, view C. All other skin thickness adapters are retracted.

m. Clamp around periphery of bonded assembly and structure in maintenance fixture to secure in place.

n. Install applicable RE374000002 step pins and bushings through bonded assembly holes and into dummy fasteners in substructure, view D.

p. Attach hoist and remove sequence A bonded assembly (detail 11).

q. Repeat steps e through m for sequence B bonded assembly (detail 13).

r. Attach hoist and remove sequence B bonded assembly (detail 13).

s. Install replacement lower skin panel on wing structure per Locating Upper and Lower Skins (WP004 02).

t. Retract skin thickness adapters (detail 194 thru 201) on bonded assembly to allow bonded assembly to contact replacement skin, view F.

u. Install sequence A bonded assembly (detail 11) per steps g thru k.

v. Clamp around periphery of a bonded assembly and structure in maintenance fixture to secure in place.

w. Drill pilot holes in replacement skin at several locations around bonded assembly, to act as key-holes, using applicable hole board and applicable repair number in Structure Repair, General Information (A1-F18AC-SRM-200).

x. Attach hoist and remove sequence A bonded assembly (detail 11).

y. Remove lower skin panel per Locating Upper and Lower Skins (WP004 02).

z. Place lower skin panel and sequence A bonded assembly (detail 11) on a work surface or in a depot furnished holding device. Place a backup device behind skin panel.

aa. Key lower skin panel to sequence A bonded assembly (detail 11) by installing applicable RE374000002 pilot size step pins through bonded assembly and into skin panel pilot holes, view G.

ab. Clamp around periphery of bonded assembly, skin panel, and backup device to secure for drilling.

ac. Drill and ream all holes full size in skin panel using applicable hole board and applicable repair number work package in Structure Repair, General Information (A1-F18AC-SRM-200).

ad. Remove sequence A bonded assembly (detail 11) from skin panel and work surface or holding device.



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o. Pot bushings in bonded assembly using melted cerrobend, with a minimum of 75% fill per Hole Locating Plate Set Accessory Kit (A1-F18AC-SRM-200, WP004 16), view D.

ae. Repeat steps y thru ab for sequence B bonded assembly (detail 13).

af. Remove sequence B bonded assembly (detail 13) from skin panel and work surface or holding device.

ag. Install bonded assembly (detail 50 or 52) in sequence A bonded assembly (detail 11) using screws in plates (details 239, 243 and 244), view K.

ah. Install bonded assembly (detail 51) in sequence B bonded assembly (detail 13) using screws in plates (details 248, 249 and 250), view L.

ai. Repeat steps g thru x for bonded assemblies (details 50 or 52, and 51).

aj. Remove bonded assembly (detail 50) for left side, or (detail 52) for right side, from sequence A

bonded assembly (detail 11) by removing screws from plates (details 239, 243 and 244), view K.

ak. Remove bonded assembly (detail 51) from sequence B bonded assembly (detail 13) by removing screws from plates (details 248, 249 and 250), view L.

al. Repeat steps y thru ab for bonded assemblies (details 50 or 52, and 51).

am. Countersink holes in lower skin panel per Aircraft Structure Repair Tool Kit (A1-F18AC-SRM-200, WP004 16).

an. Clean loose materials from lower skin panel and wing structure area.

ao. Install lower skin panel. For fasteners and attaching hardware (WP003 02).

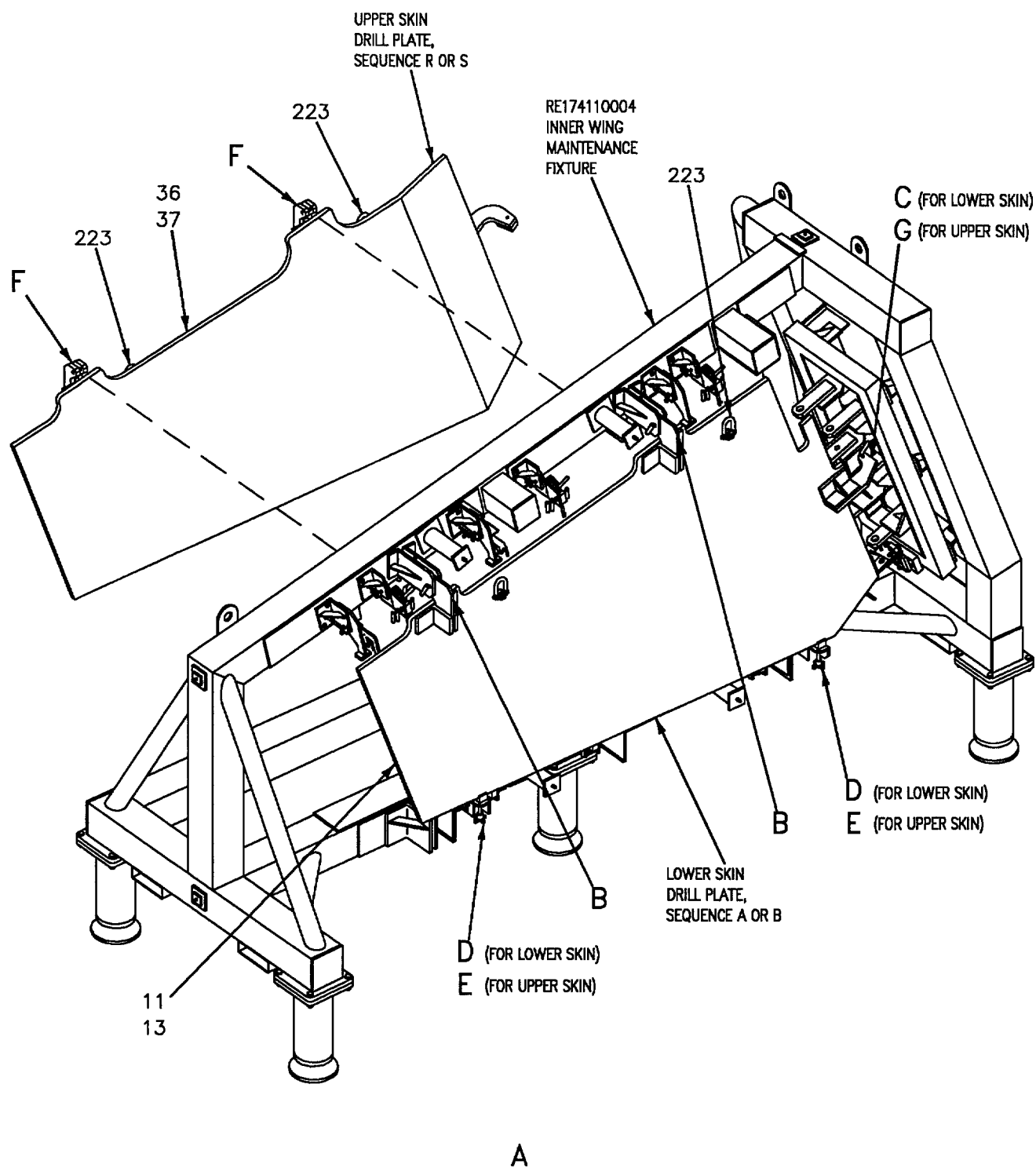
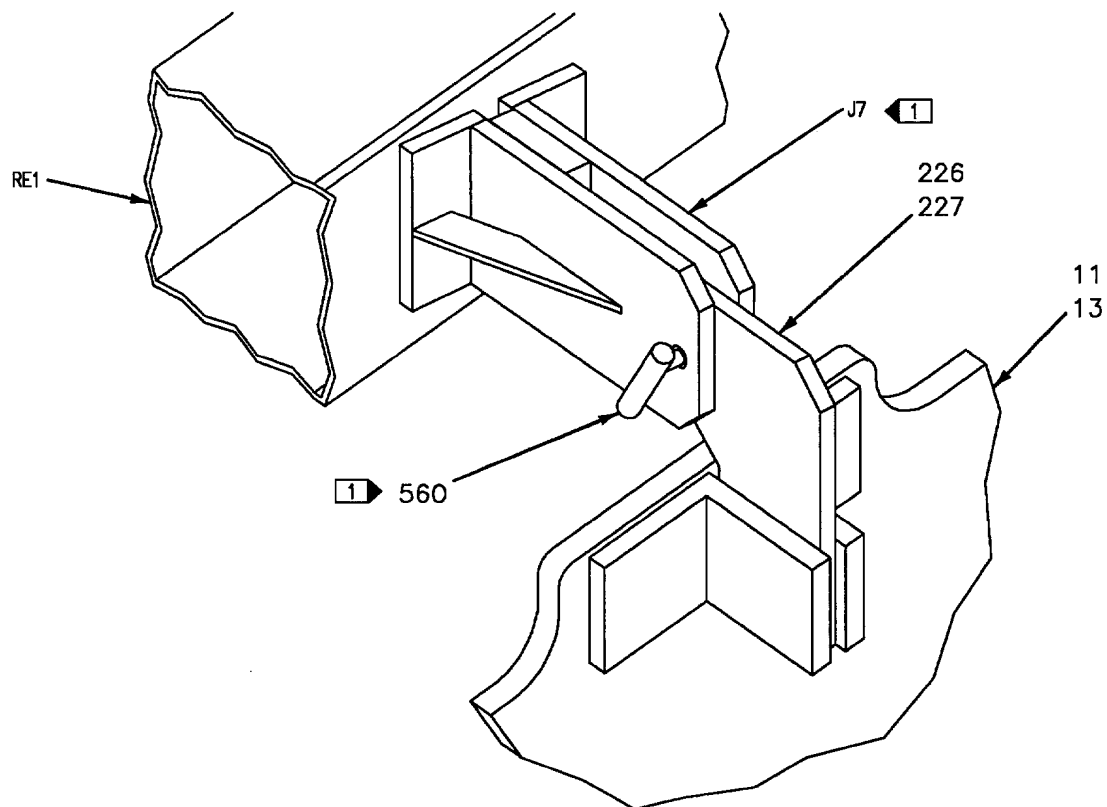
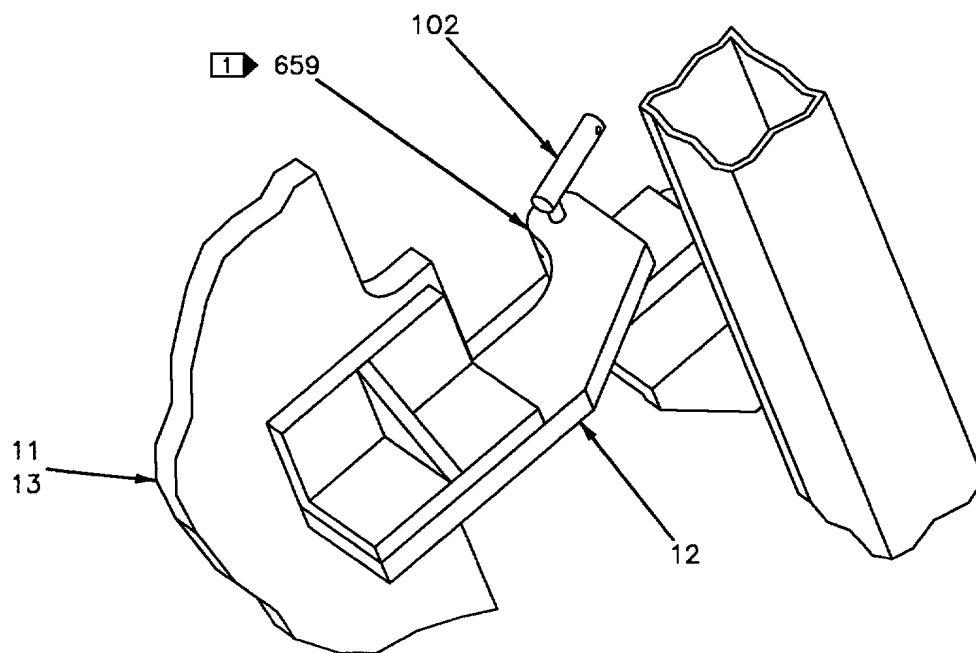


Figure 1. Installation of Drill Plates into Maintenance Fixture (Sheet 1)

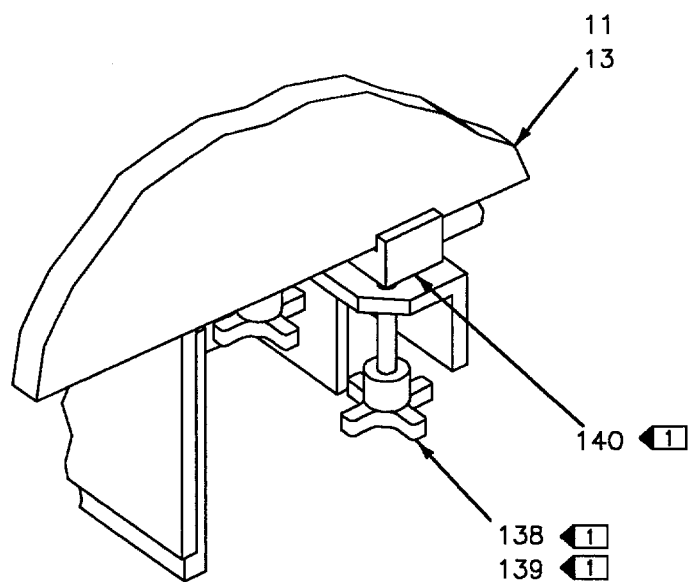


B

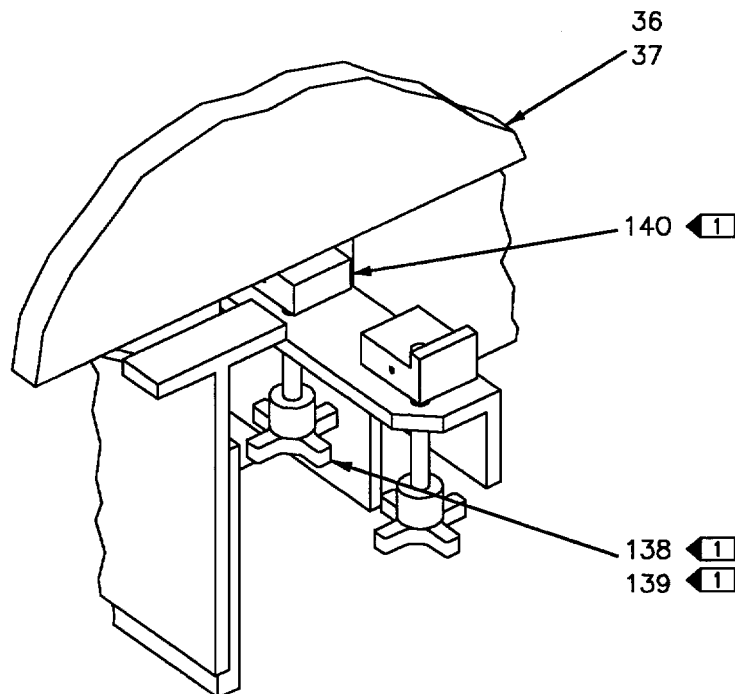


C

Figure 1. Installation of Drill Plates into Maintenance Fixture (Sheet 2)

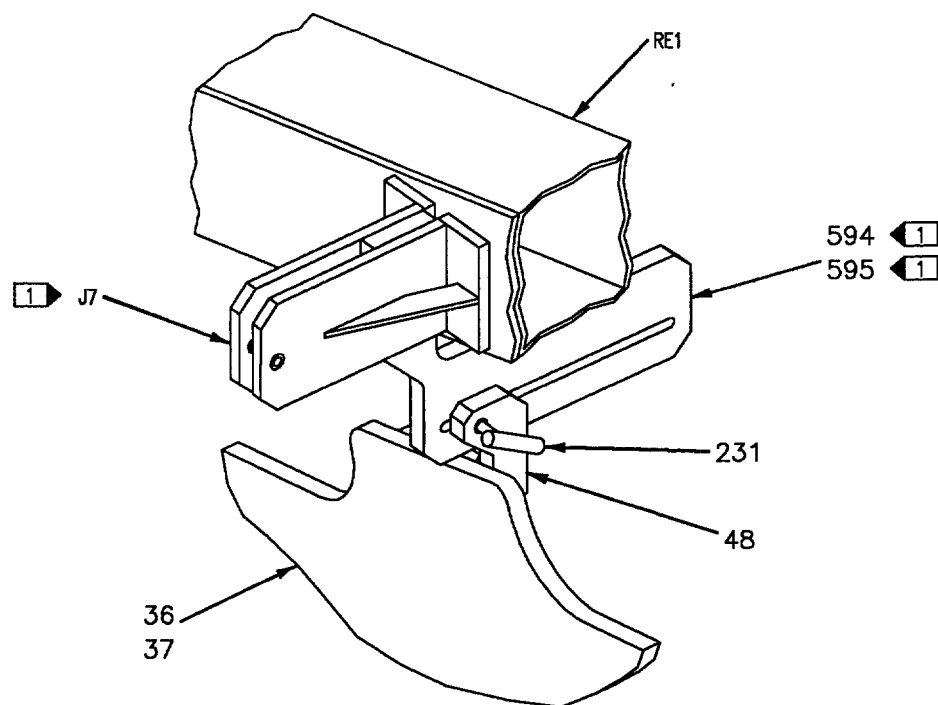


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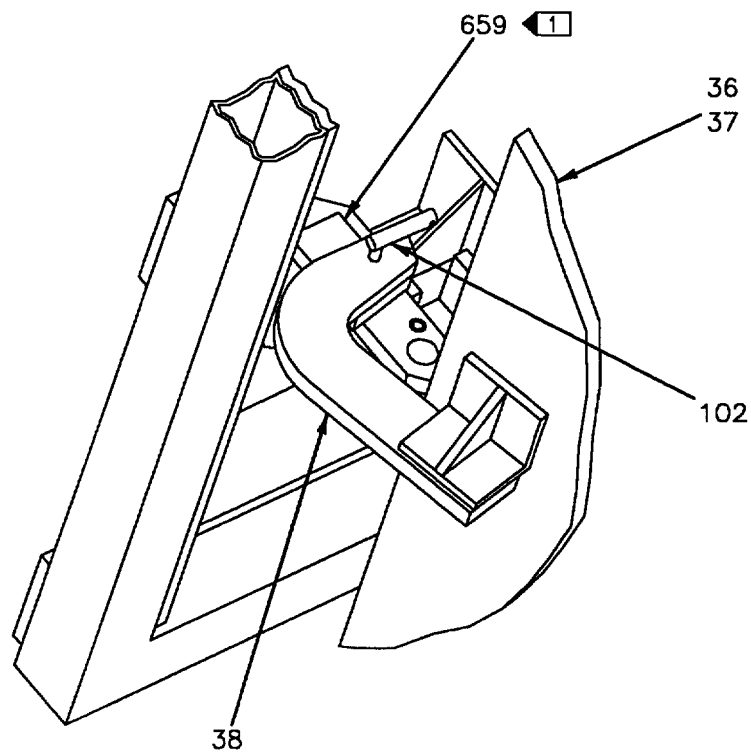


E

Figure 1. Installation of Drill Plates into Maintenance Fixture (Sheet 3)



F



G

Figure 1. Installation of Drill Plates into Maintenance Fixture (Sheet 4)








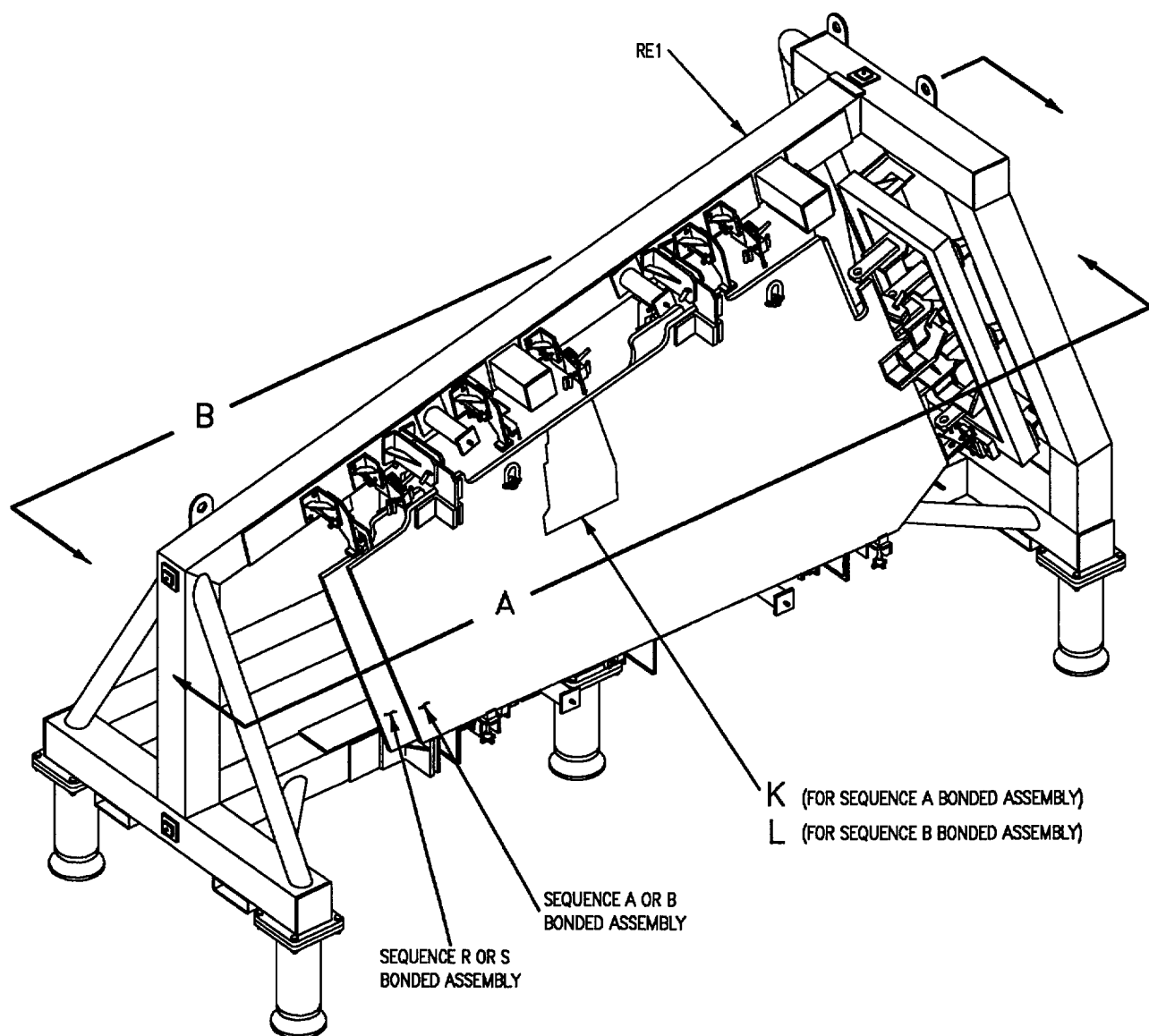
Detail No.	Name	Function
J7 	Clevis	Attaching point for bonded assemblies.
11	Sequence A Bonded Assembly	Used to locate and drill hole pattern in lower skin and structure.
12	Hinge Half	Locates lower skin bonded assemblies (details 11 and 13) at inboard edge of skin.
13	Sequence B Bonded Assembly	Used to locate and drill hole pattern in lower skin and structure.
36	Sequence R Bonded Assembly	Used to locate and drill hole pattern in upper skin and structure.
37	Sequence S Bonded Assembly	Used to locate and drill hole pattern in upper skin and structure.
38	Hinge Half	Locates upper skin bonded assemblies (details 36 and 37) at inboard edge of skin.
48	Hinge Half	Aligns and locates sequence R and S bonded assemblies with RE1.
102	L-Pin	Secures detail 12 to RE1.
138, 139 	Hand Knob	Adjusts sequence A, B, R and S bonded assemblies in maintenance fixture.
140 	Bonded Assembly Support	Supports sequence A, B, R and S bonded assemblies in maintenance fixture.
223	Hoist Ring	Lifts sequence A, B, R and S bonded assemblies.
226, 227	Hinge Half	Aligns and locates detail 11.
231	L-Pin	Secures sequence R and S bonded assemblies to RE1.
560 	L-Pin	Secures sequence A and B bonded assemblies to RE1.
594, 595 	Clevis	Aligns and supports bonded assemblies in RE1.
659 	Clevis	Aligns and supports bonded assemblies in RE1.
LEGEND		
 Part of RE174110004 Inner Wing Maintenance Fixture.		

Figure 1. Installation of Drill Plates into Maintenance Fixture (Sheet 5)



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Figure 2. Drilling Holes in Skins or Substructure (Sheet 1)

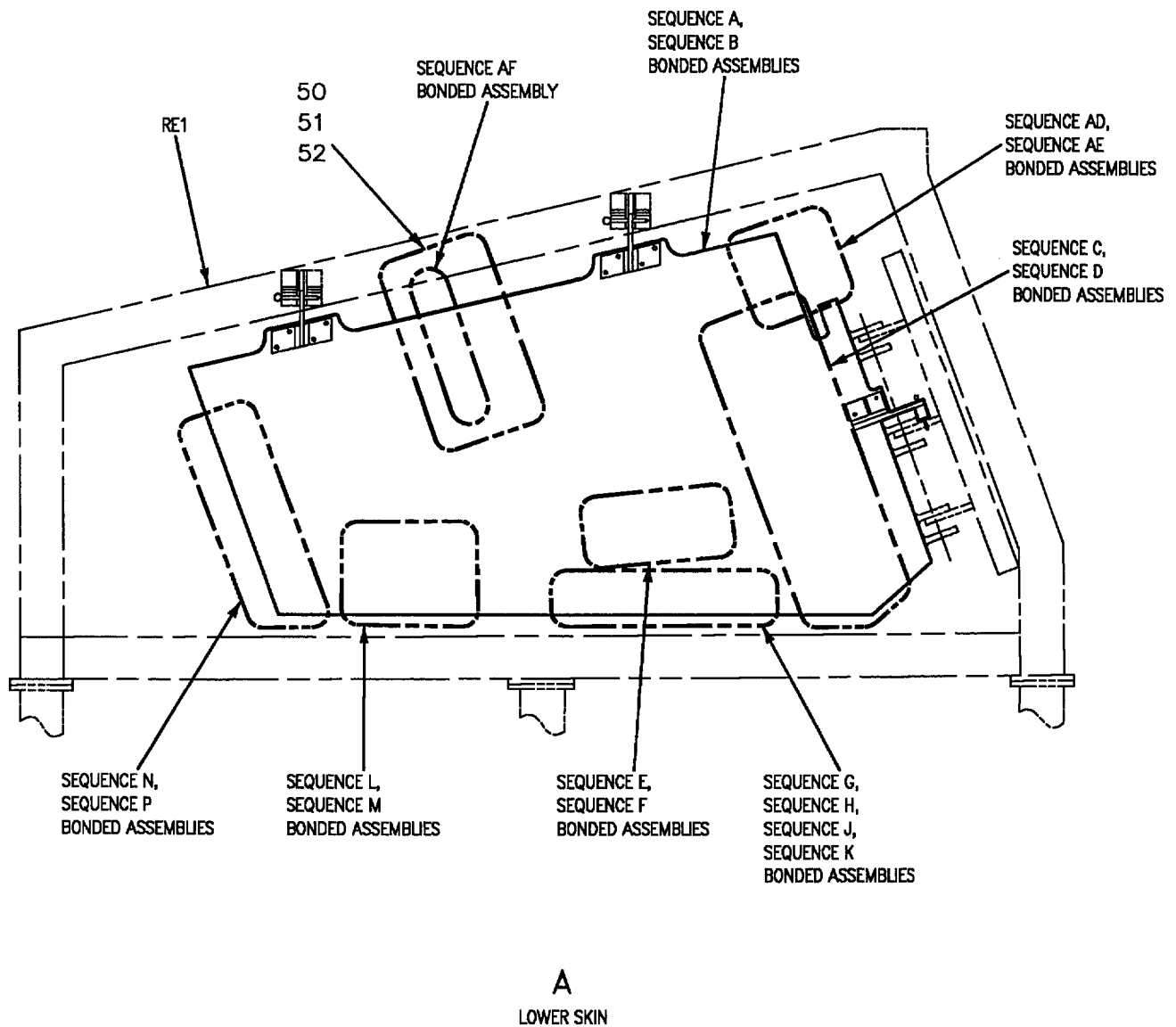
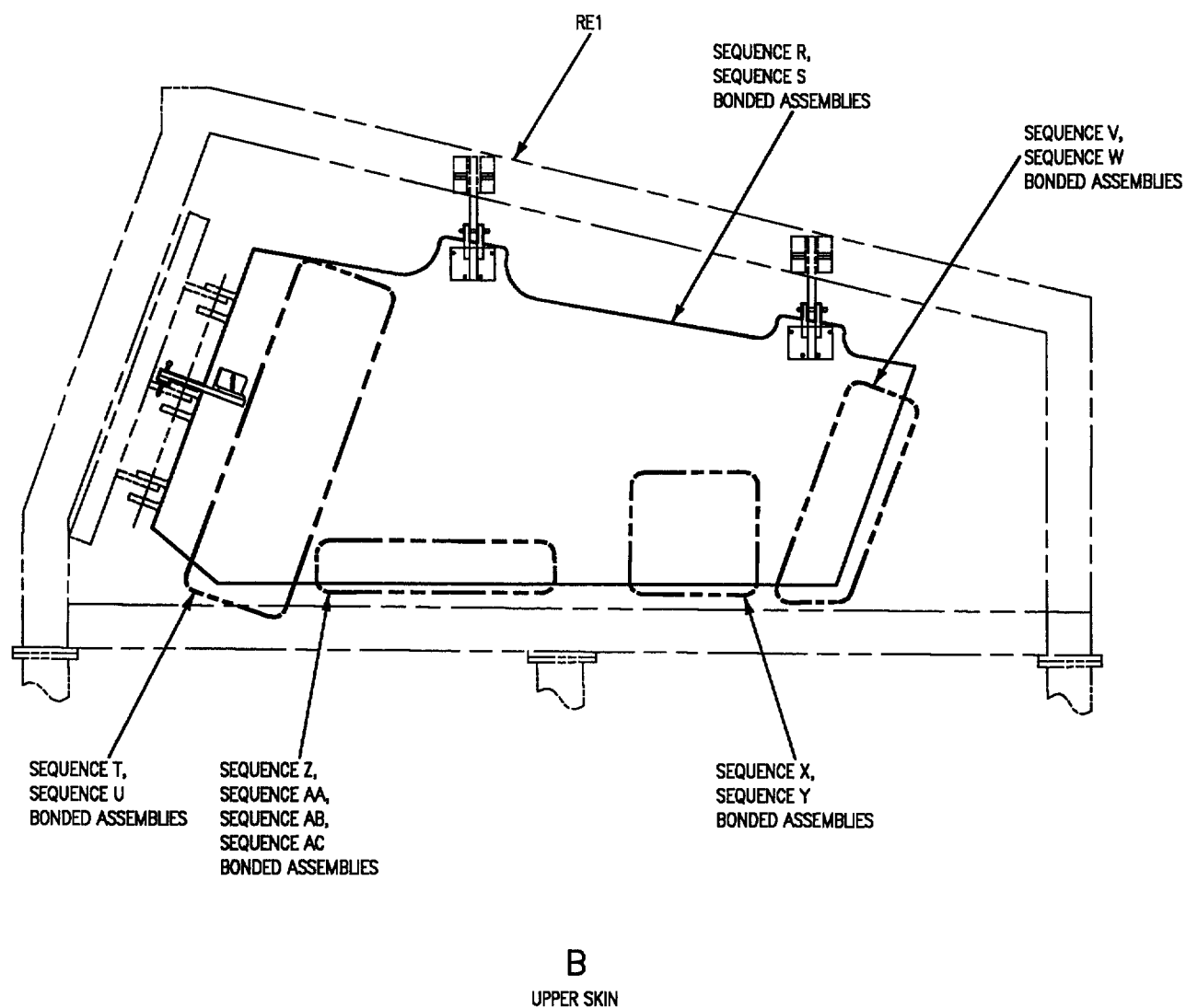
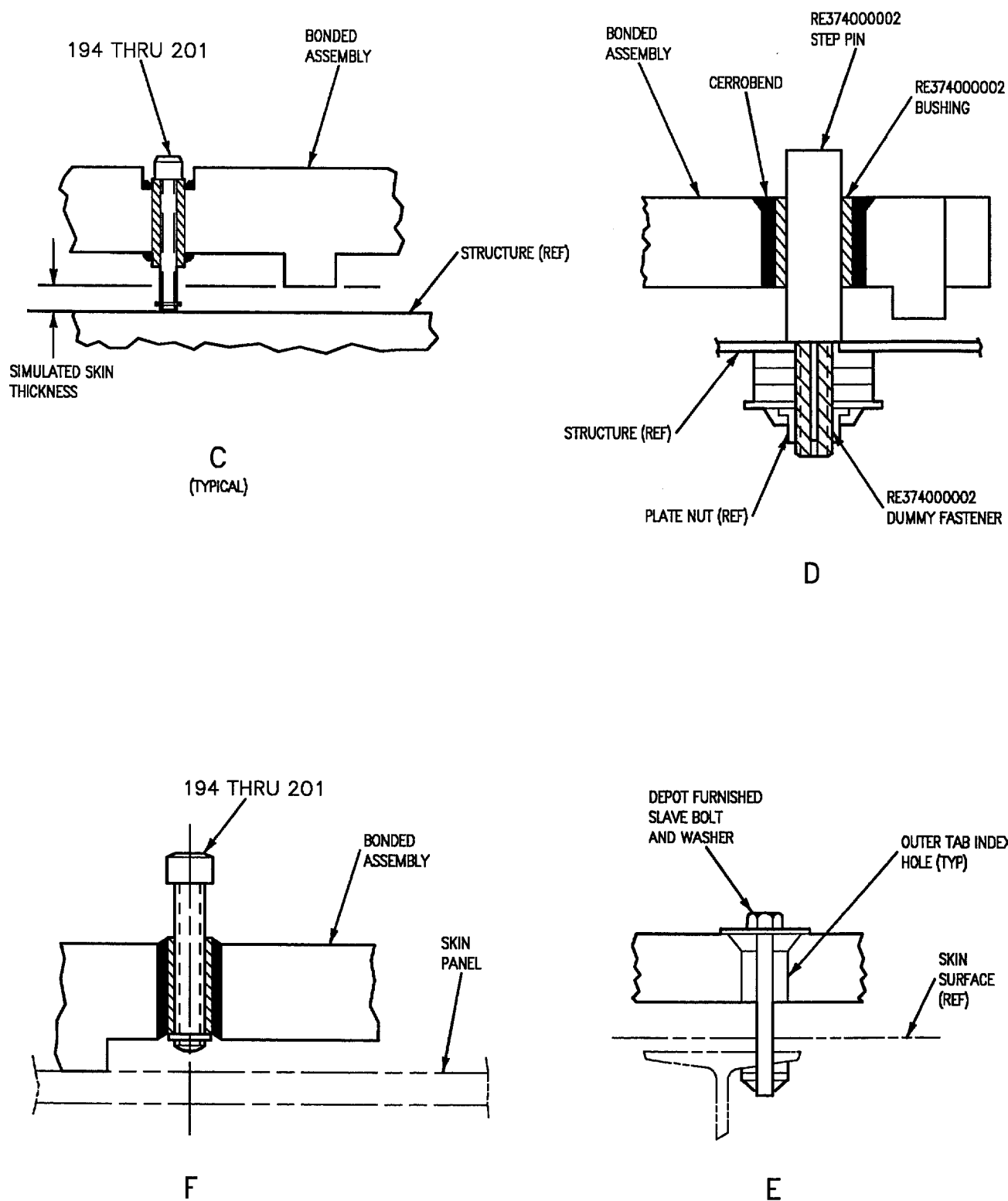


Figure 2. Drilling Holes in Skins or Substructure (Sheet 2)



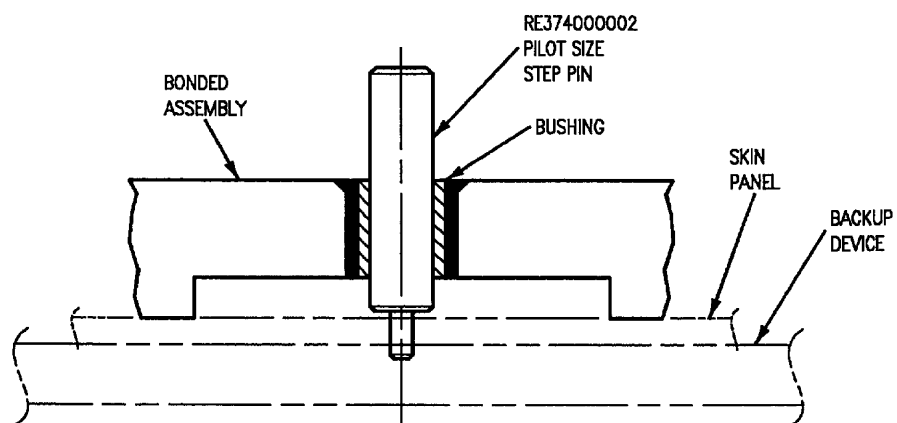
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Figure 2. Drilling Holes in Skins or Substructure (Sheet 3)

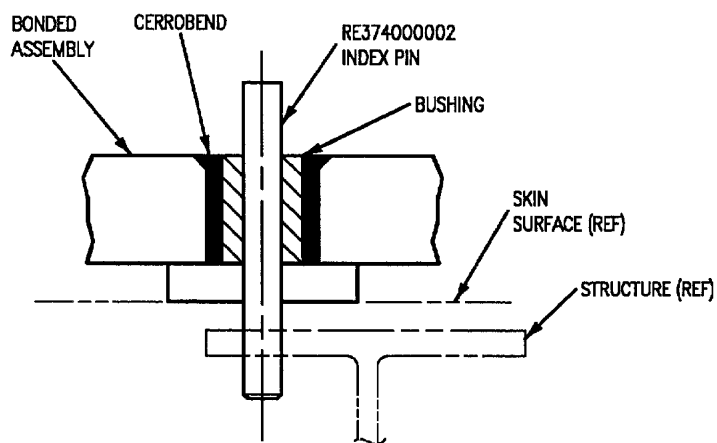


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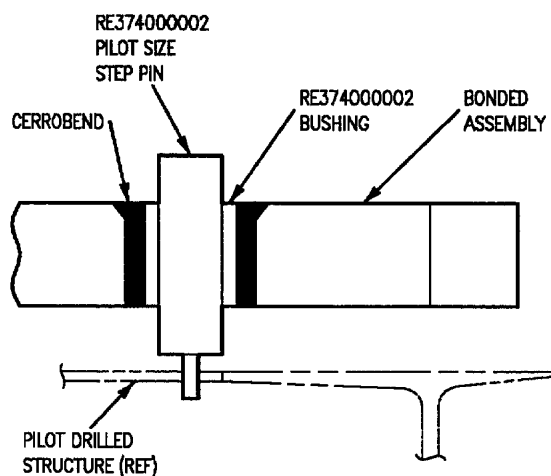
Figure 2. Drilling Holes in Skins or Substructure (Sheet 4)



G



H



J

Figure 2. Drilling Holes in Skins or Substructure (Sheet 5)

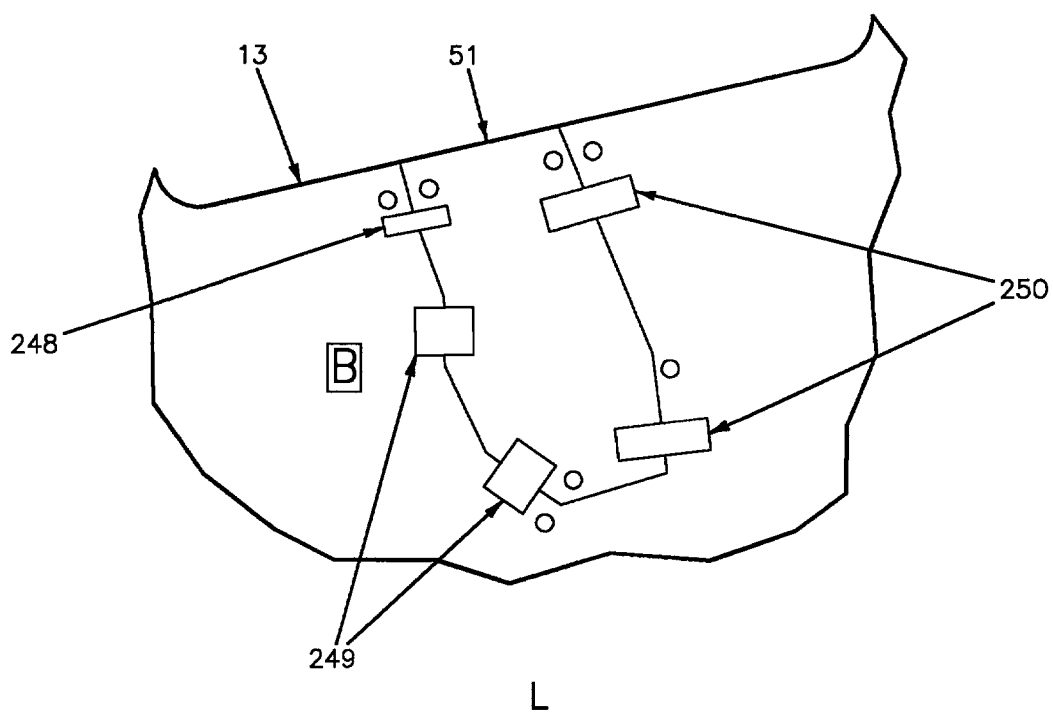
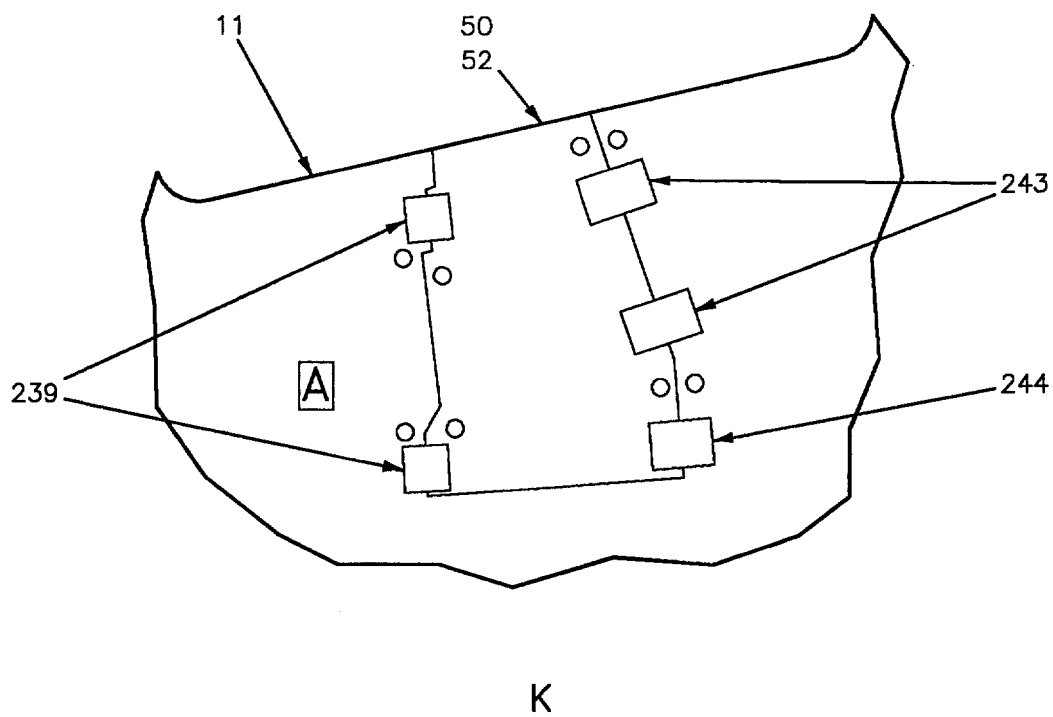


Figure 2. Drilling Holes in Skins or Substructure (Sheet 6)

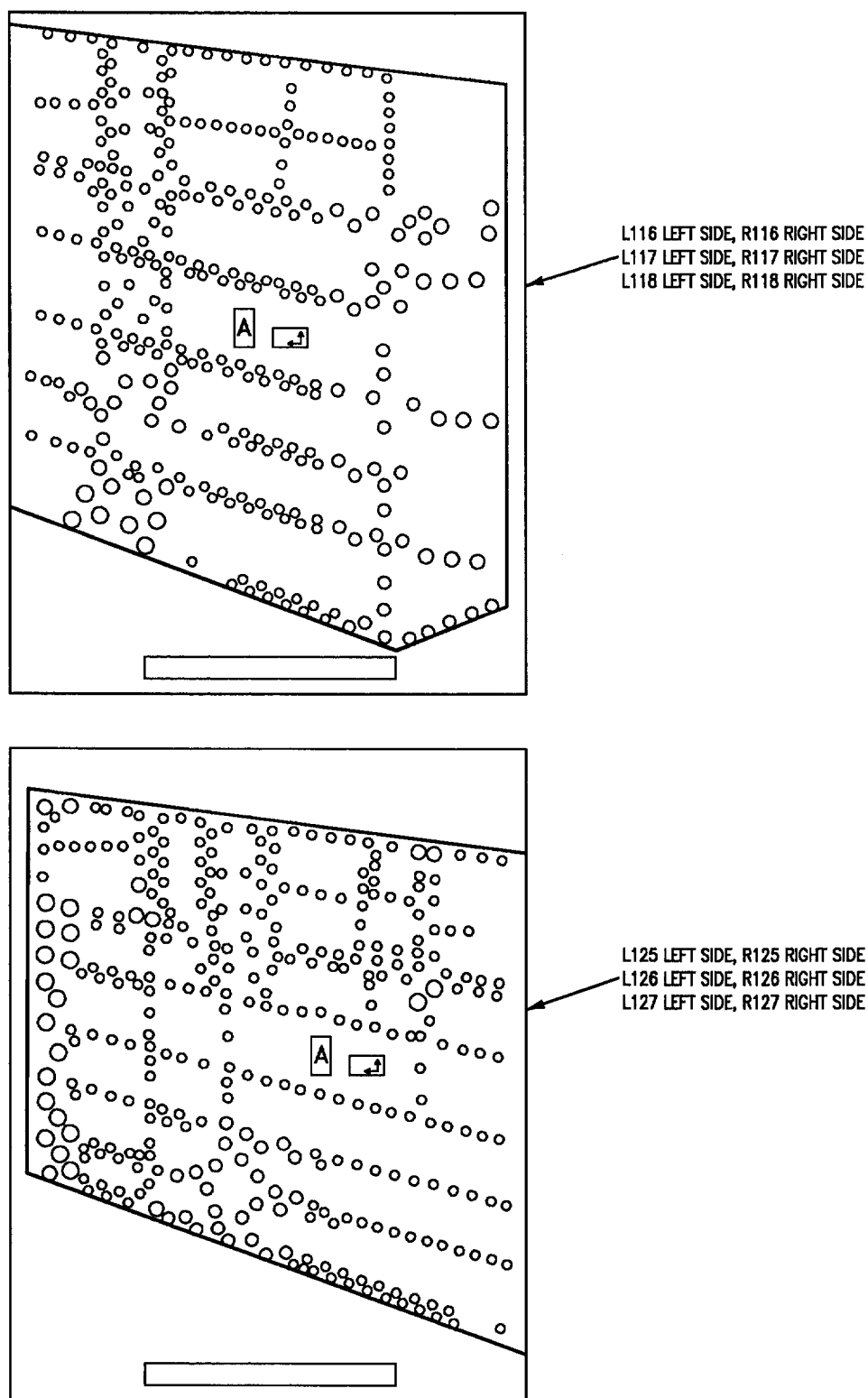


Figure 2. Drilling Holes in Skins or Substructure (Sheet 7)

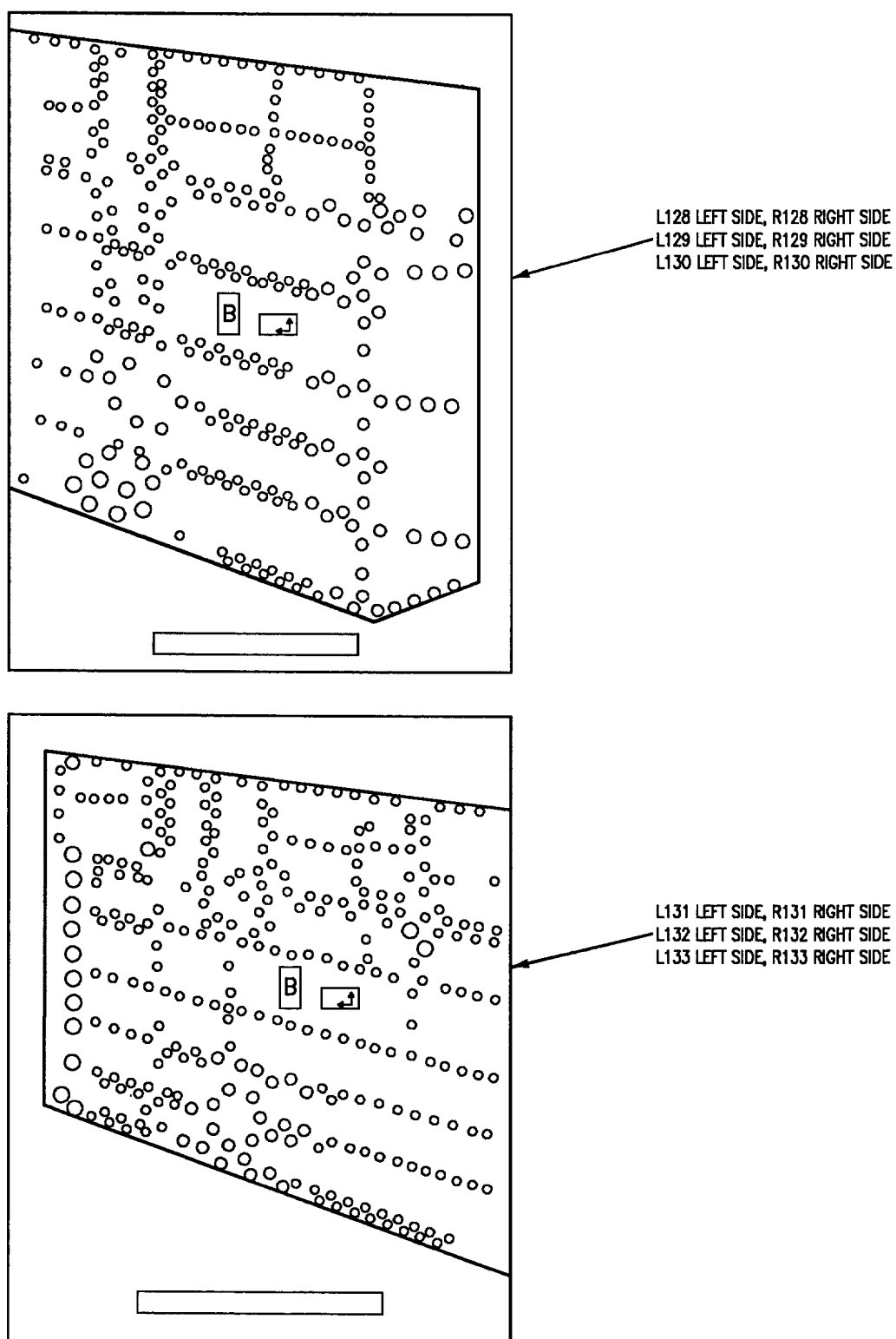


Figure 2. Drilling Holes in Skins or Substructure (Sheet 8)

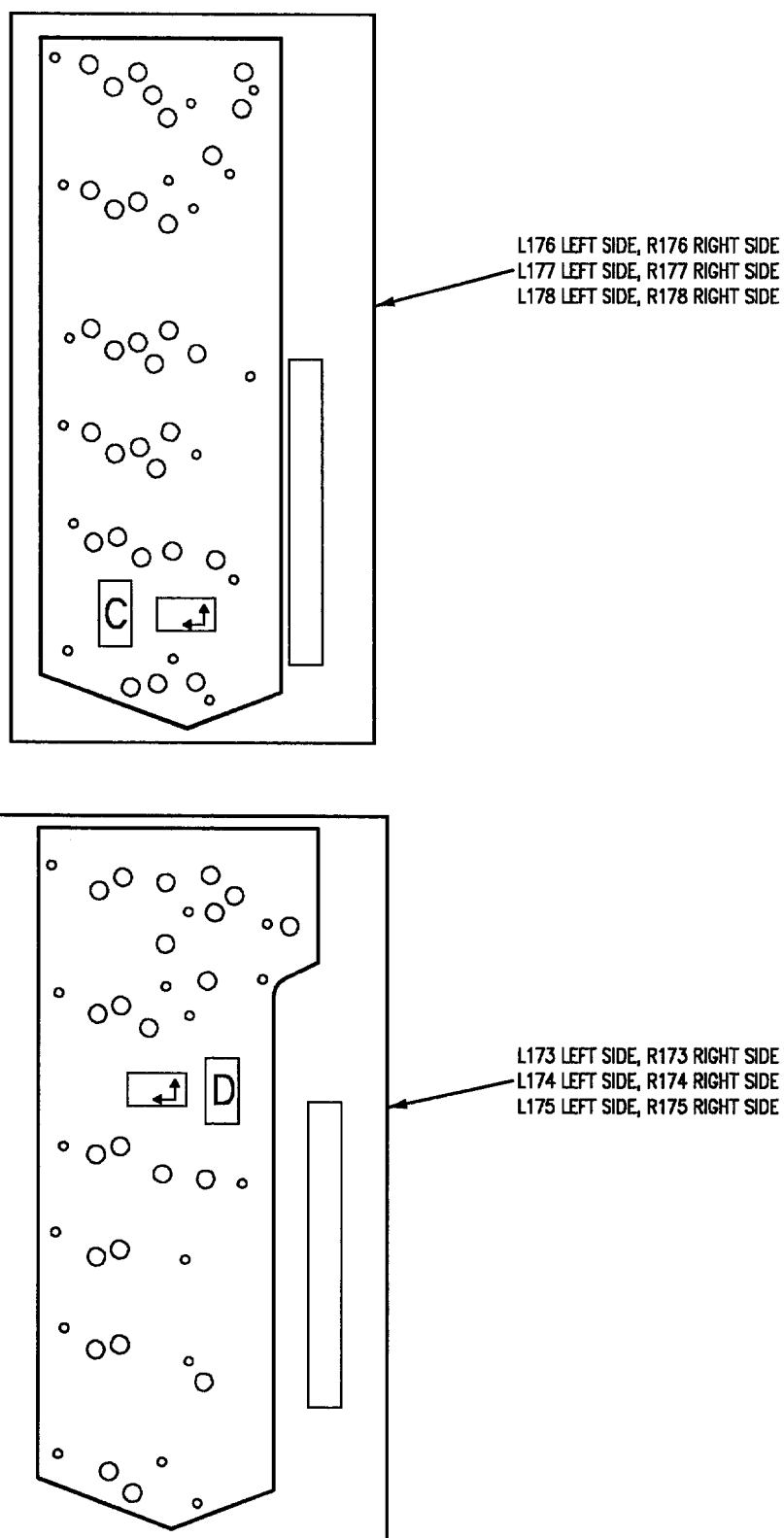


Figure 2. Drilling Holes in Skins or Substructure (Sheet 9)

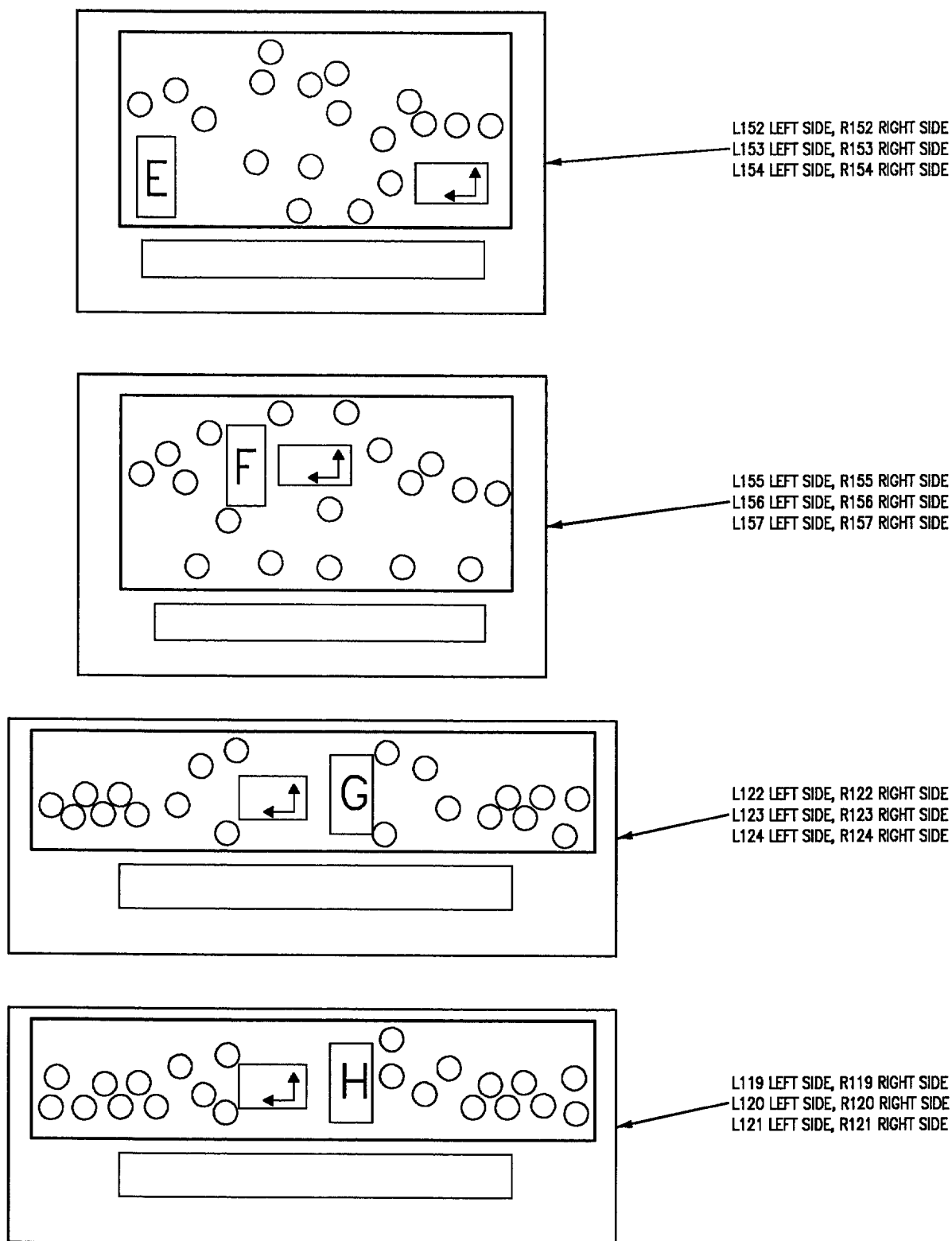


Figure 2. Drilling Holes in Skins or Substructure (Sheet 10)

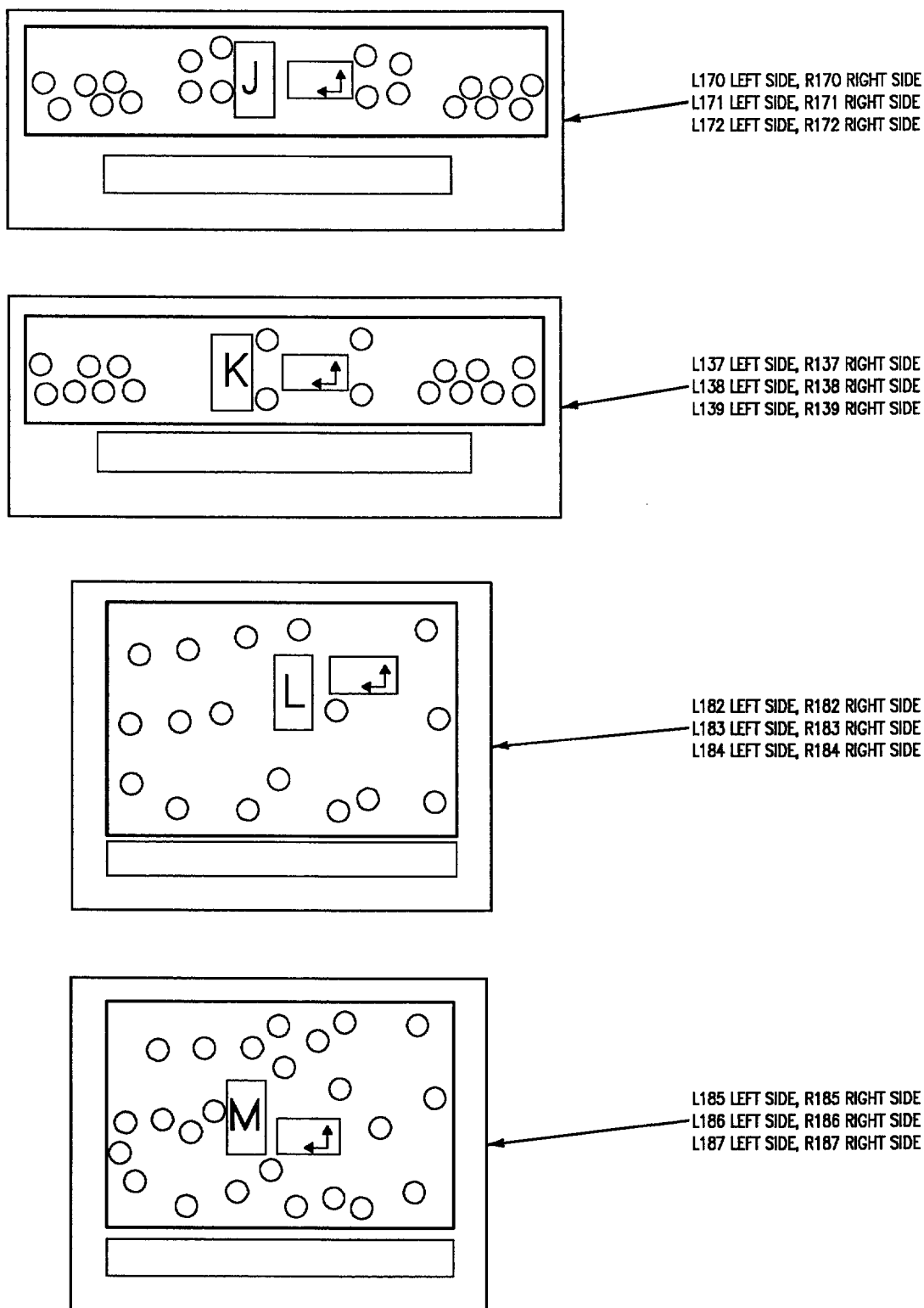


Figure 2. Drilling Holes in Skins or Substructure (Sheet 11)

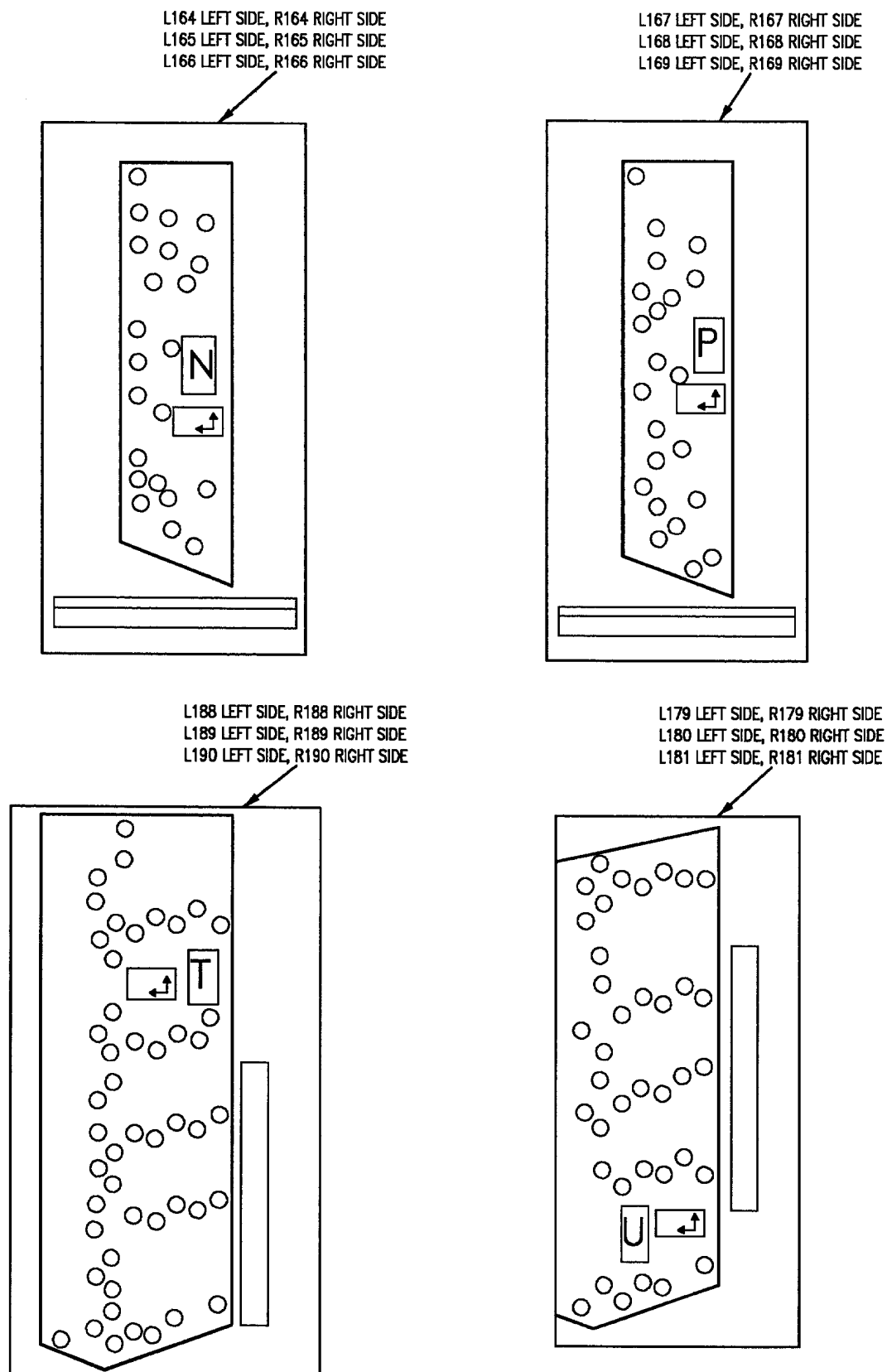
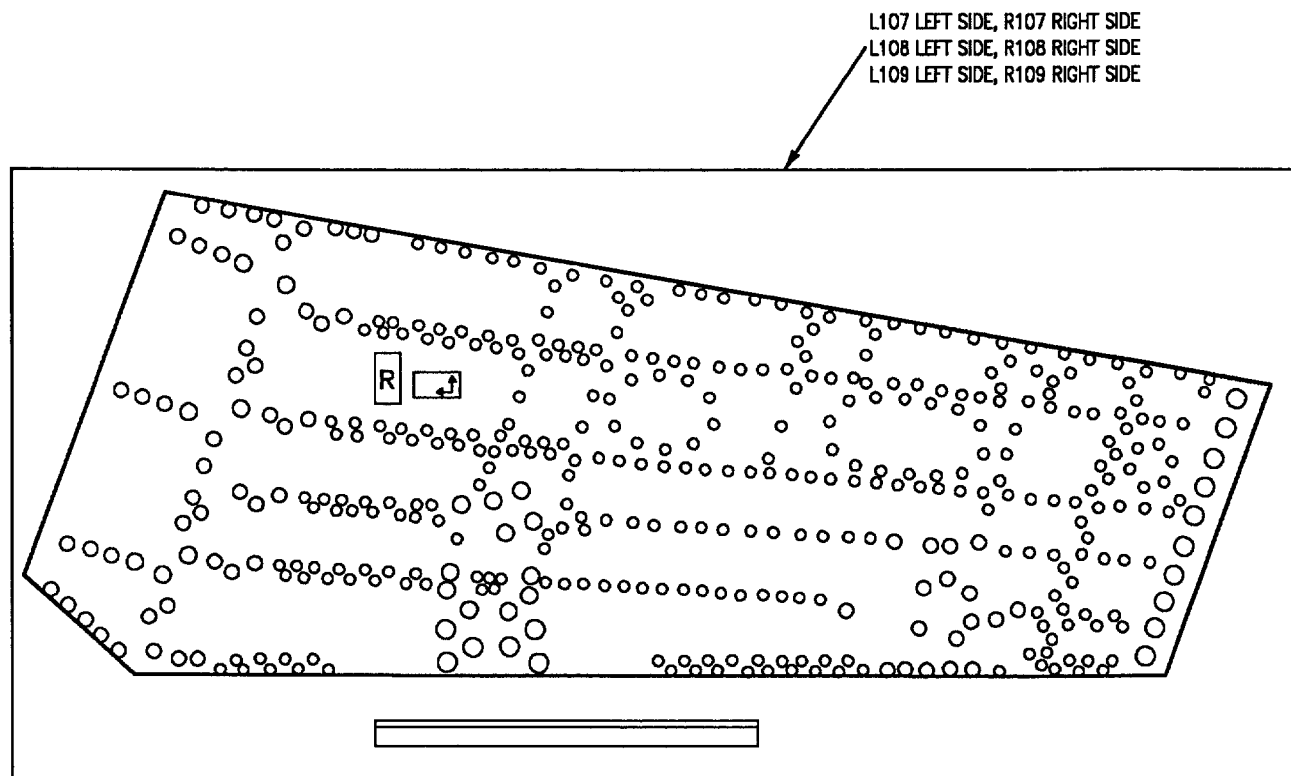


Figure 2. Drilling Holes in Skins or Substructure (Sheet 12)



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Figure 2. Drilling Holes in Skins or Substructure (Sheet 13)

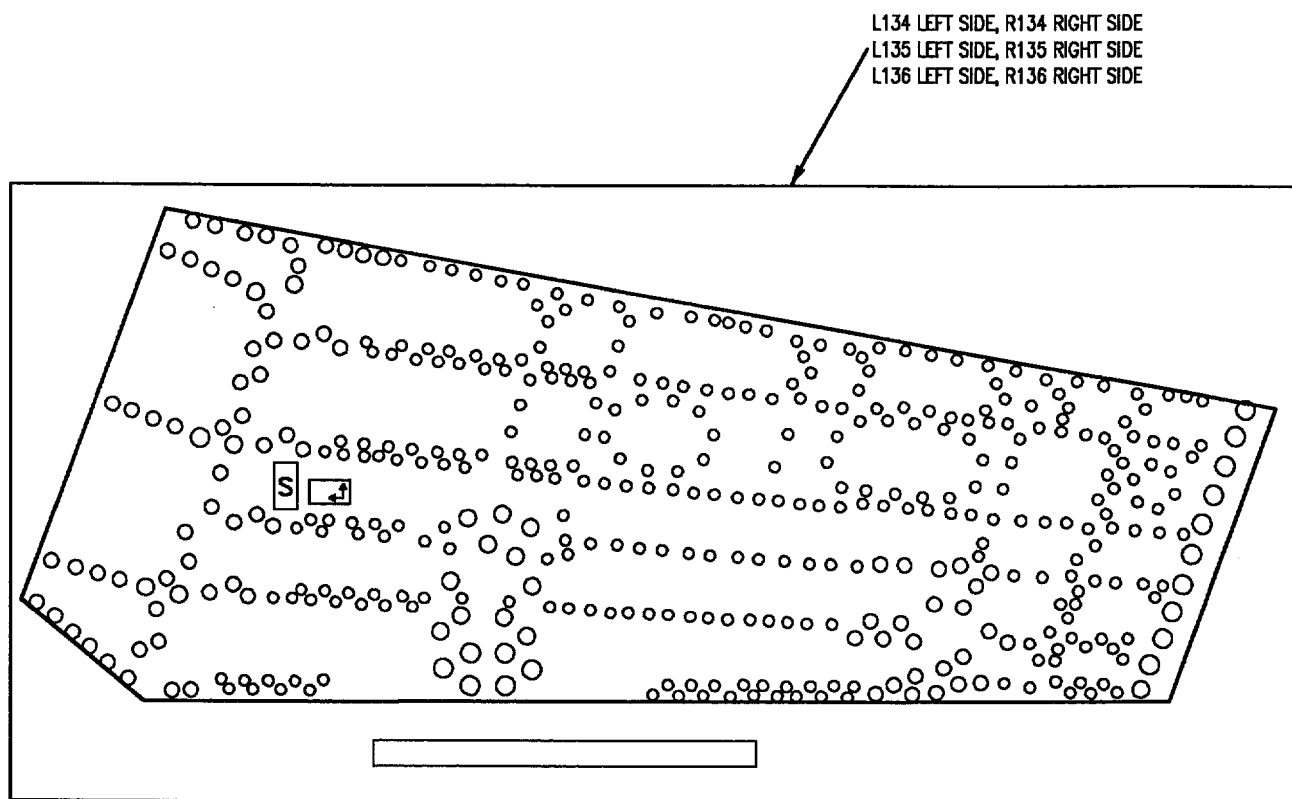


Figure 2. Drilling Holes in Skins or Substructure (Sheet 14)

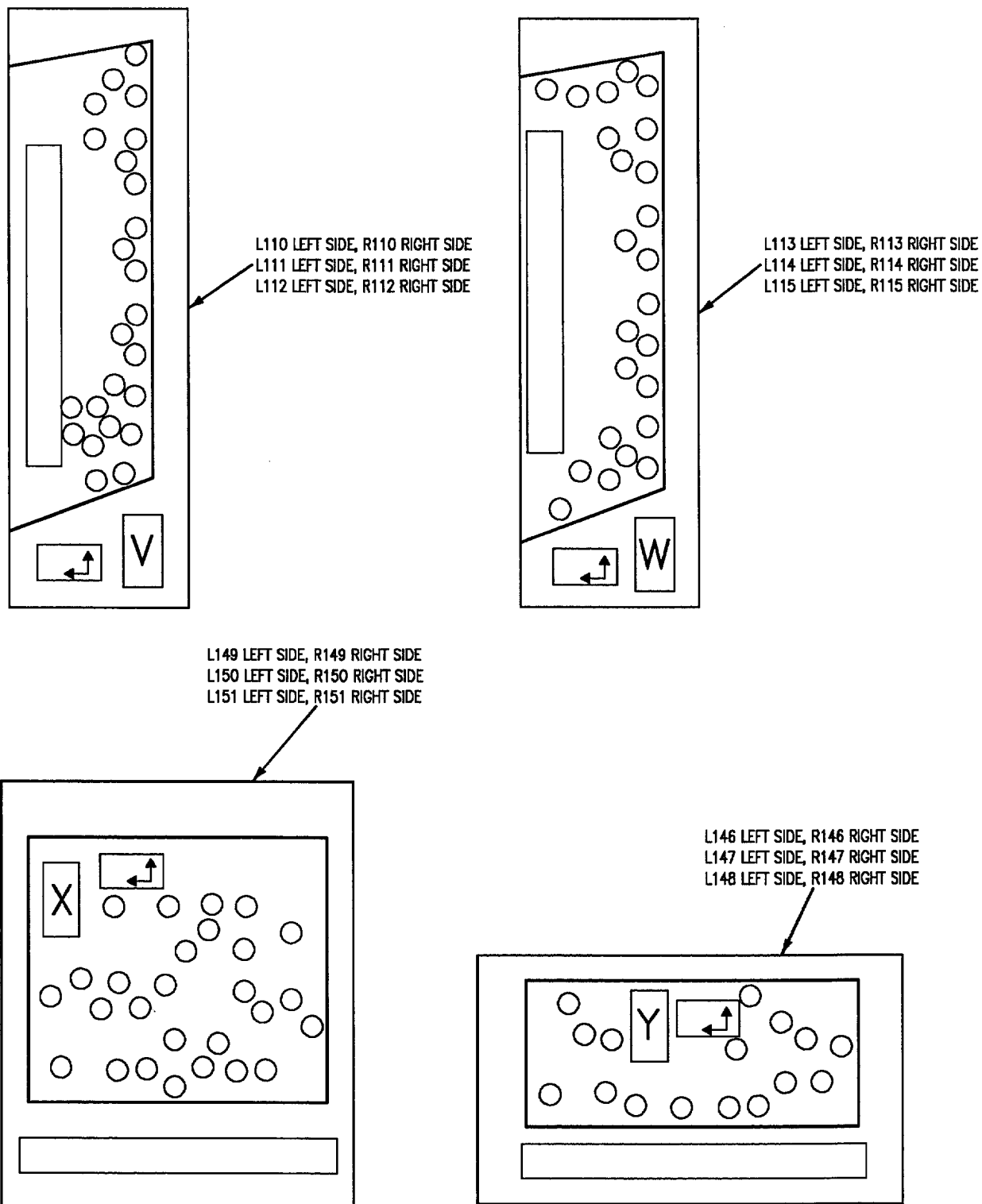


Figure 2. Drilling Holes in Skins or Substructure (Sheet 15)

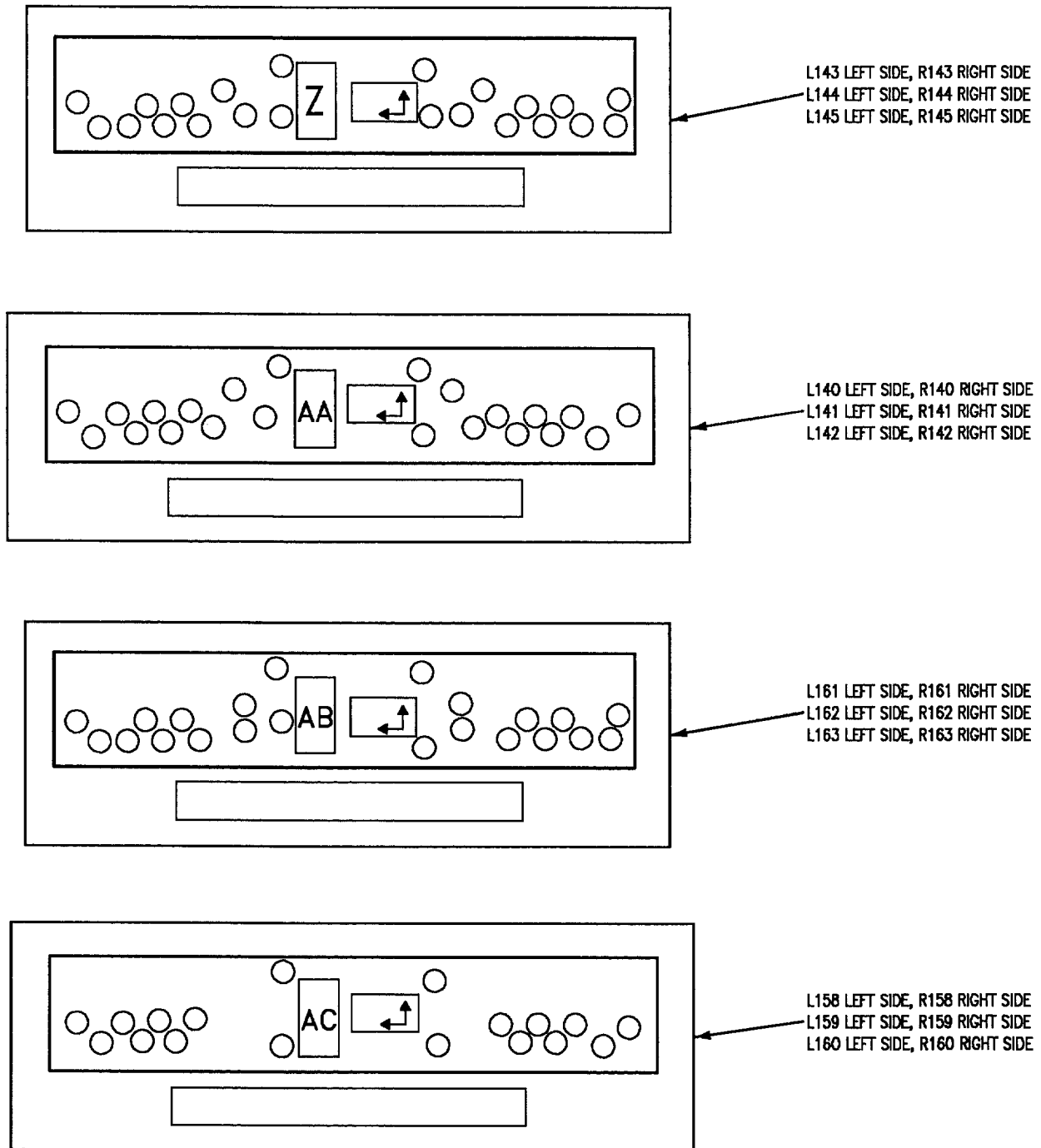


Figure 2. Drilling Holes in Skins or Substructure (Sheet 16)

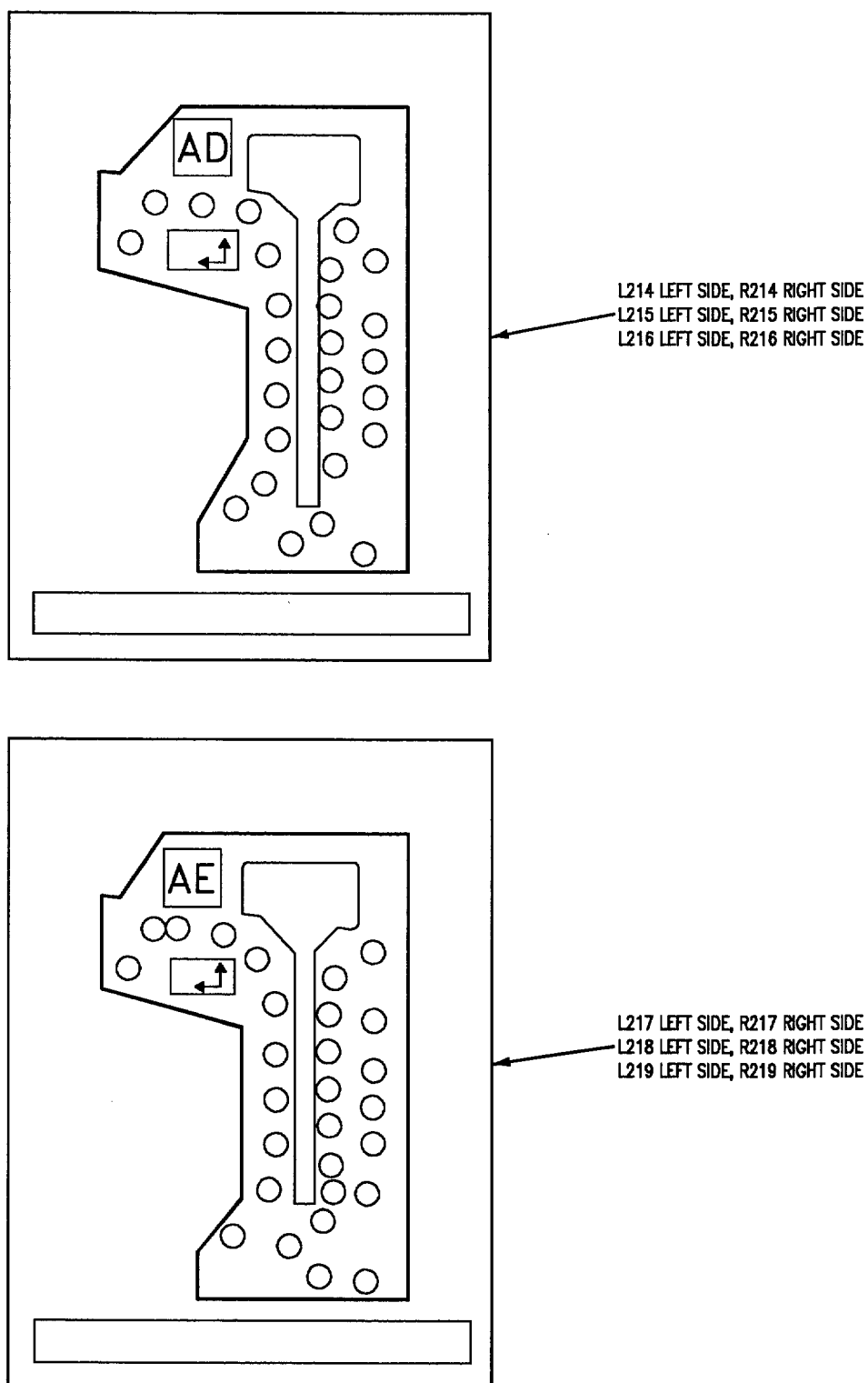


Figure 2. Drilling Holes in Skins or Substructure (Sheet 17)

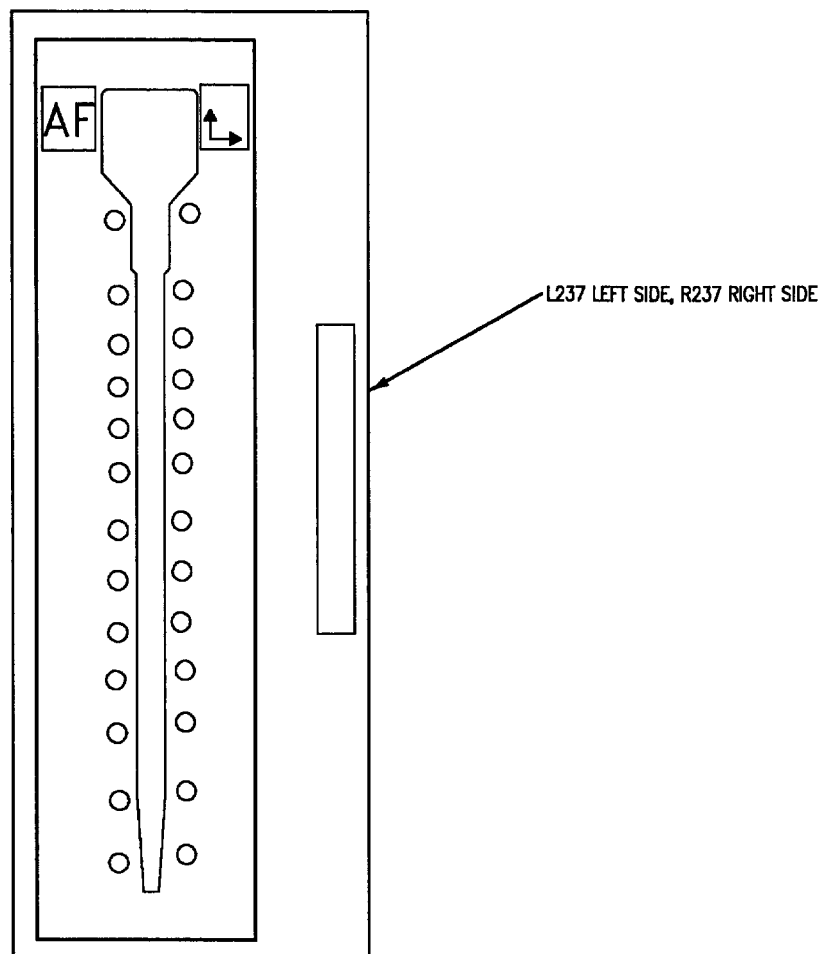


Figure 2. Drilling Holes in Skins or Substructure (Sheet 18)

Detail No.	Name	Function
Subassembly A	Sequence AE Bonded Assembly	Used to locate and drill hole pattern in skin around 74A110959 hinge half.
Subassembly B	Sequence AD Bonded Assembly	Used to locate and drill hole pattern in skin around 74A110959 hinge half.
11	Sequence A Bonded Assembly	Used to locate and drill hole pattern in lower skin and structure.
13	Sequence B Bonded Assembly	Used to locate and drill hole pattern in lower skin and structure.
14	Sequence D Bonded Assembly	Used to locate and drill hole pattern in lower skin and structure.
15	Sequence C Bonded Assembly	Used to locate and drill hole pattern in lower skin and structure.
16	Sequence F Bonded Assembly	Used to locate and drill hole pattern in lower skin and structure.
17	Sequence E Bonded Assembly	Used to locate and drill hole pattern in lower skin and structure.
18	Sequence H Bonded Assembly	Used to locate and drill hole pattern in lower skin and structure.
19	Sequence G Bonded Assembly	Used to locate and drill hole pattern in lower skin and structure.
20	Sequence J Bonded Assembly	Used to locate and drill hole pattern in lower skin and structure.
21	Sequence K Bonded Assembly	Used to locate and drill hole pattern in lower skin and structure.
22	Sequence L Bonded Assembly	Used to locate and drill hole pattern in lower skin and structure.
23	Sequence M Bonded Assembly	Used to locate and drill hole pattern in lower skin and structure.
24	Sequence AA Bonded Assembly	Used to locate and drill hole pattern in lower skin and structure.
25	Sequence Z Bonded Assembly	Used to locate and drill hole pattern in lower skin and structure.

Figure 2. Drilling Holes in Skins or Substructure (Sheet 19)

Detail No.	Name	Function
26	Sequence AB Bonded Assembly	Used to locate and drill hole pattern in lower skin and structure.
27	Sequence AC Bonded Assembly	Used to locate and drill hole pattern in lower skin and structure.
28	Sequence P Bonded Assembly	Used to locate and drill hole pattern in lower skin and structure.
29	Sequence N Bonded Assembly	Used to locate and drill hole pattern in lower skin and structure.
30	Sequence Y Bonded Assembly	Used to locate and drill hole pattern in lower skin and structure.
31	Sequence X Bonded Assembly	Used to locate and drill hole pattern in lower skin and structure.
32	Sequence T Bonded Assembly	Used to locate and drill hole pattern in lower skin and structure.
33	Sequence V Bonded Assembly	Used to locate and drill hole pattern in lower skin and structure.
34	Sequence U Bonded Assembly	Used to locate and drill hole pattern in lower skin and structure.
35	Sequence W Bonded Assembly	Used to locate and drill hole pattern in lower skin and structure.
36	Sequence R Bonded Assembly	Used to locate and drill hole pattern in lower skin and structure.
37	Sequence S Bonded Assembly	Used to locate and drill hole pattern in lower skin and structure.
50, 52	Bonded Assembly	Used to locate and drill hole pattern in 74A110954 lower skin panel in sequence A bonded assembly.
51	Bonded Assembly	Used to locate and drill hole pattern in 74A110954 lower skin panel in sequence B bonded assembly.
194, 195, 196, 197, 198, 199, 200, 201	Skin Thickness Adapter	Simulates thickness of skin on structure.
239, 243, 244	Plate	Attaches details 50 and 52 to sequence A bonded assembly.

Figure 2. Drilling Holes in Skins or Substructure (Sheet 20)

Detail No.	Name	Function
248,249,250	Plate	Attaches details 51 to sequence B bonded assembly.
L107, R107 L108, R108 L109, R109	Hole Board	Sequence R reference board.
L110, R110 L111, R111 L112, R112	Hole Board	Sequence V reference board.
L113, R113 L114, R114 L115, R115	Hole Board	Sequence W reference board.
L116, R116 L117, R117 L118, R118 L125, R125 L126, R126 L127, R127	Hole Board	Sequence A reference board.
L119, R119 L120, R120 L121, R121	Hole Board	Sequence H reference board.
L122, R122 L123, R123 L124, R124	Hole Board	Sequence G reference board.
L128, R128 L129, R129 L130, R130 L131, R131 L132, R132 L133, R133	Hole Board	Sequence B reference board.
L134, R134 L135, R135 L136, R136	Hole Board	Sequence S reference board.
L137, R137 L138, R138 L139, R139	Hole Board	Sequence K reference board.
L140, R140 L141, R141 L142, R142	Hole Board	Sequence AA reference board.

Figure 2. Drilling Holes in Skins or Substructure (Sheet 21)

Detail No.	Name	Function
L143, R143 L144, R144 L145, R145	Hole Board	Sequence Z reference board.
L146, R146 L147, R147 L148, R148	Hole Board	Sequence Y reference board.
L149, R149 L150, R150 L151, R151	Hole Board	Sequence X reference board.
L152, R152 L153, R153 L154, R154	Hole Board	Sequence E reference board.
L155, R155 L156, R156 L157, R157	Hole Board	Sequence F reference board.
L158, R158 L159, R159 L160, R160	Hole Board	Sequence AC reference board.
L161, R161 L162, R162 L163, R163	Hole Board	Sequence AB reference board.
L164, R164 L165, R165 L166, R166	Hole Board	Sequence N reference board.
L167, R167 L168, R168 L169, R169	Hole Board	Sequence P reference board.
L170, R170 L171, R171 L172, R172	Hole Board	Sequence J reference board.
L173, R173 L174, R174 L175, R175	Hole Board	Sequence D reference board.
L176, R176 L177, R177 L178, R178	Hole Board	Sequence C reference board.

Figure 2. Drilling Holes in Skins or Substructure (Sheet 22)

Detail No.	Name	Function
L179, R179 L180, R180 L181, R181	Hole Board	Sequence U reference board.
L182, R182 L183, R183 L184, R184	Hole Board	Sequence L reference board.
L185, R185 L186, R186 L187, R187	Hole Board	Sequence M reference board.
L188, R188 L189, R189 L190, R190	Hole Board	Sequence T reference board.
L214, R214 L215, R215 L216, R216	Hole Board	Sequence AD reference board.
L217, R217 L218, R218 L219, R219	Hole Board	Sequence AE reference board.
L237, R237	Hole Board	Sequence AF reference board.

Figure 2. Drilling Holes in Skins or Substructure (Sheet 23)

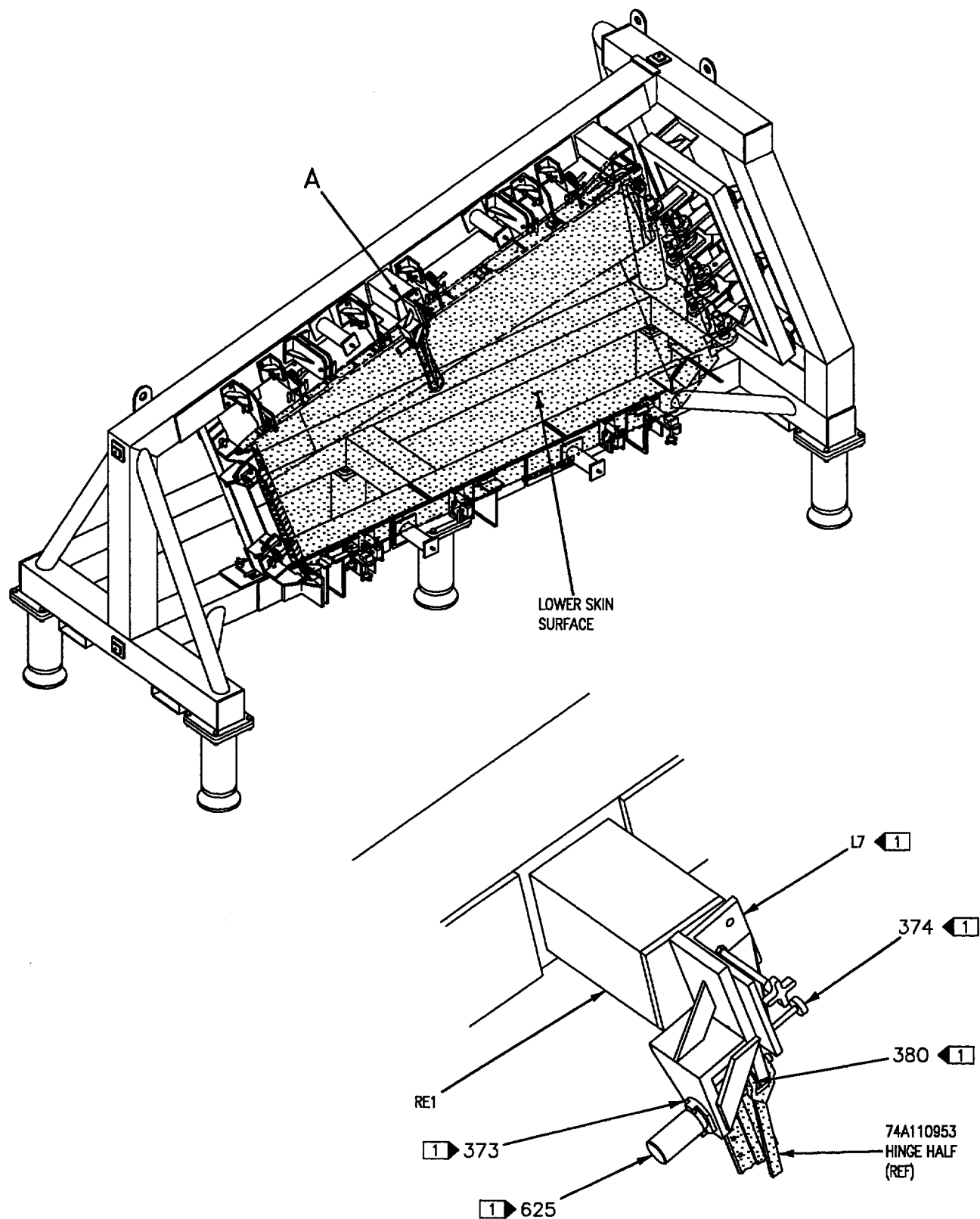


Figure 3. Drilling Holes in 74A110953 Hinge Half Assembly (Sheet 1)

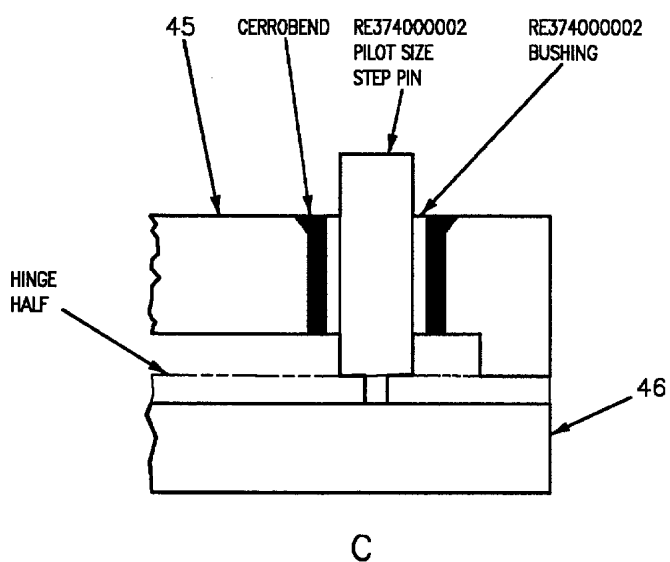
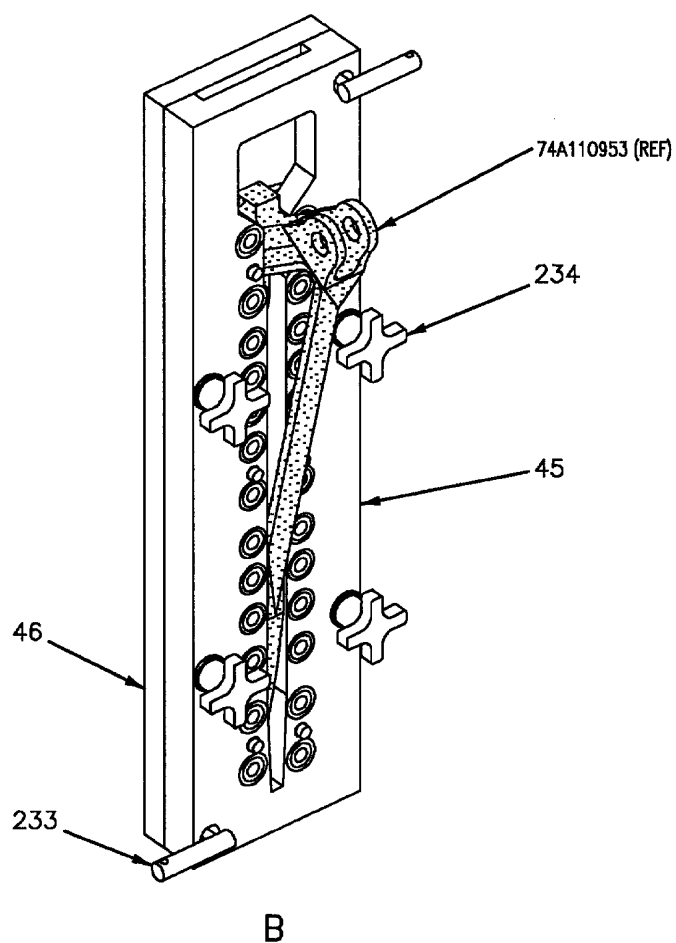
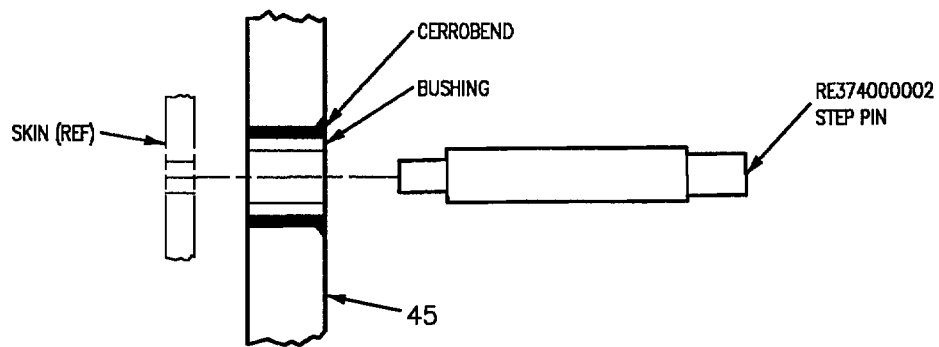
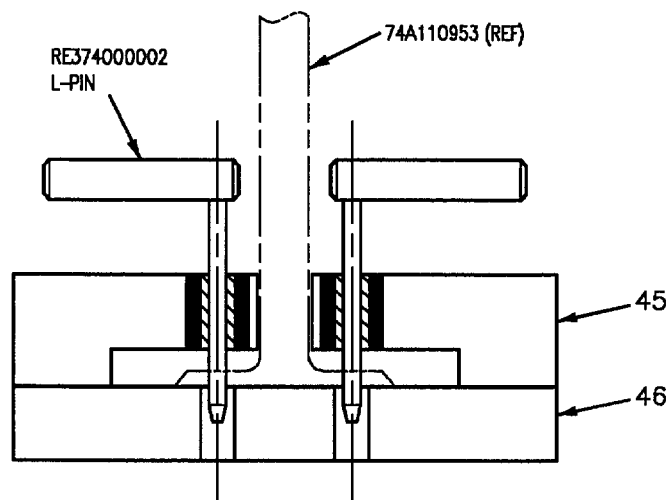


Figure 3. Drilling Holes in 74A110953 Hinge Half Assembly (Sheet 2)



D



E

Figure 3. Drilling Holes in 74A110953 Hinge Half Assembly (Sheet 3)







Detail No.	Name	Function
L7 	Locator	Locates 74A110953 hinge half to wing structure.
45, 46	Sequence AF Bonded Assembly	Used to locate and drill hole pattern in 74A110953 hinge half assembly.
233	Hand Knob	Secures parts of bonded assembly together.
234	L-Pin	Locates parts of bonded assembly to each other.
373 	Drill Bushing	Locates pin to install hinge half.
374 	Knurled Nut	Tightens to secure hinge half.
380 	Bushing	Locates pin to install hinge half.
625 	Pin	Locates hinge half in place on detail L7.
LEGEND		
 Part of RE174110004 Inner Wing Maintenance Fixture.		

Figure 3. Drilling Holes in 74A110953 Hinge Half Assembly (Sheet 4)

ORGANIZATIONAL, INTERMEDIATE, AND DEPOT MAINTENANCE**STRUCTURE REPAIR****INNER WING STRUCTURE**

Reference Material

Structure Repair, Wing	A1-F18AC-SRM-210
Pylon Bushing Tool Set, Removal and Installation, RE174110606	WP004 04
Inner Wing External Graphite Epoxy Doors 78, 79, 82, 191, 192, and 193	WP005 00
Trailing Edge Flap Shroud	WP007 00
Outer Wing Removal and Installation	WP020 00
Aircraft Corrosion Control	A1-F18AC-SRM-500
Chemical Treatment	WP008 00
Form In Place Sealing	WP010 00
Priming Procedures	WP011 00
Inner and Outer Wing Finish System and Markings	WP027 00
Integrated Flight Controls	A1-F18AC-570-300
Inboard Flap (84MPU535 or 84MPV536)	WP028 00
Trailing Edge Flap (84MPU539 or 84MPV540)	WP039 00
Trailing Edge Flap Servocylinder	WP040 00
Wing Fold Swivel Joint (17U-U503 or 17U-V504)	WP059 00
Line Maintenance Access Doors	A1-F18AC-LMM-010
Line Maintenance Procedures	A1-F18AC-LMM-000
Nondestructive Inspection	A1-F18AC-SRM-300
Penetrant Method	WP004 00
Eddy Current Surface Inspection of Aluminum Alloys	WP007 00
Ultrasonic Resonance Inspection With Fokker Bond Tester	WP008 06
Plane Captain Manual	A1-F18AC-PCM-000
Structure Illustrated Parts Breakdown Wing	A1-F18AC-SRM-410
Wing, Aircraft, Installation of (Wing to Fuselage Attach Points)	FIG003 00
Structure Assy, Wing Inner	FIG013 00
Structure Repair, General Information	A1-F18AC-SRM-200
Working Titanium Alloy	WP004 02
Gang Channel and Plate Nut Identification and Repair	WP004 05
Shop Practices, Fasteners	WP004 06
EMI Electrical Bonding Strip Contact Verification	WP004 25
Adhesive, Cement, and Sealant; Preparation and Application	WP011 00
Structure Repair, Typical Repairs	A1-F18AC-SRM-250
Aluminum, Graphite Epoxy, or Titanium Patch Installation and Removal	WP007 00
Titanium Surface Preparation for Patch Installation	WP007 01
Blending	WP038 00
Aerospace Metals, General Data and Usage Factors	NAVAIR 01-1A-9
Aircraft Weapons System Cleaning and Corrosion Control	NAVAIR 01-1A-509

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Record of Applicable Technical Directives

Type/ Number	Date	Title and ECP No.	Date Incorp.	Remarks
F/A-18 AFC 27	13 Jul 90	Improvement of Leading Edge Flap Design (ECP MDA-F/A-18-00044)	1 Mar 87	-

1. **DAMAGE EVALUATION.** See figures 1 through 4.

2. The types of material used are shown on figures 1 through 3. Repair zones are shown on figure 4. Locating and determining size of damage by visual method is organizational maintenance. An engineering disposition is depot maintenance.

3. **NEGLIGIBLE DAMAGE.** Damage requires depot engineering disposition.

4. **REPAIRABLE DAMAGE.** Damage requires depot engineering disposition.

5. **REPAIRS.** Repairs not listed require depot engineering disposition.

6. **Outboard Pylon Post Bushing, 161353 THRU 162427.** This repair is to add clearance for pylon hook. See figure 5.

Support Equipment Required

None

Materials Required

None

a. Remove cover (Door 21) (A1-F18AC-LMM-010).

b. Grind forward cutout in pylon bushing to dimensions, view A.

- c. Finish reworked surface to RHR of 125 to 250.
- d. Remove filings from bushing area.
- e. Do a type I, method C fluorescent penetrant inspection (A1-F18AC-SRM-300, WP004 00).
- f. Refinish area if required (A1-F18AC-SRM-500, WP011 00).
- g. Install cover (Door 21) (A1-F18AC-LMM-010).

7. **Inner Closure Rib Fasteners and Repair Fasteners.** For fasteners and allowable repair fasteners in closure rib, see figure 6.

Support Equipment Required

Part Number or Type Designation	Nomenclature
-	Torque Wrench, 0 to 120 Inch-Pounds
-	Torque Wrench, 0 to 200 Inch-Pounds

Materials Required

Specification or Part Number	Nomenclature
MS20995N51	Wire, Non Electrical
822X362	Polyurethane, Gloss Insignia White, Color No. 17875

- a. Inspect bolts for correct torque values to make sure structure clamp-up exists.
- (1) 0.250 diameter bolts shall be torqued 50 to 70 inch-pounds.
- (2) 0.312 diameter bolts shall be torqued 100 to 140 inch-pounds.

- b. After retorquing fasteners, apply a torque stripe approximately 1/8-inch wide across bolt head and structure next to head.

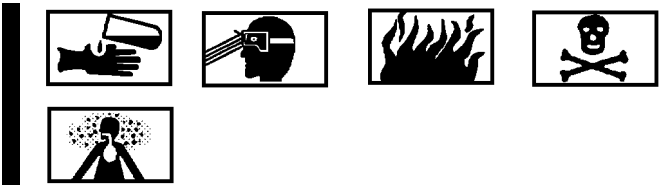
8. **Aft Spar Wing Fold Lug Repair, 161353 Thru 161528.** See figure 7. The repair below is for aircraft 161353 thru 161528 that have undersized aft spar wing fold lug pockets.

Support Equipment Required

Part Number or Type Designation	Nomenclature
-	Infrared Heat Source, 250 Watt
-	Heat Gun

Materials Required

Specification or Part Number	Nomenclature
MIL-T-9046, Type 3, Comp C, Annealed, 0.375 x 2.35 x 5.00 Inch	Titanium, Unalloyed 6Al-4V
QQ-C-530, Condition A	Beryllium Copper Alloy 172, 1.75. Dia. x 0.860 (left side), 1.75 Dia. x 0.835 (right side)
FM73	Adhesive
HLT311DL-5-()	Pin, Rivet
HL570-5MC	Collar
TT-M-261	Methyl Ethyl Ketone
MIL-C-87962, Type 1 222555	Cleaning Cloth
BR-127	Cleaner, Metal, for Aluminum
MIL-G-3866, Type 1	Primer
MIL-C-81302, Type 1 9151-0-500	Gloves, Cotton Work, Mens
-	Cleaning Compound
MS-36253-3	Tape, Vacuum Bag Sealant
A-A-203	Water, Deionized
CCC-C-440, Type 1, Class 1	Litmus Paper (Blue)
200SG40TR	Kraft Paper, Untreated
	Cheesecloth
	Plastic Sheet, 2 Mil Thick



Materials Required (Continued)

Specification or Part Number	Nomenclature
FM641	Verifilm
TEMP-R-GLASS 3TLL	Cloth, Teflon
PASA-JELL 107	Cleaning Material, for Titanium
Turco 4181	Rust Remover, Alkaline
MIL-C-81792, Type 1	Rymple Cloth

a. Remove outer wing (WP020 00).

b. Remove wing fold swivel joint (A1-F18AC-570-300, WP059 00).

c. Remove 74A110907 skin by removing bolts, nuts, and washers, view A.

d. Remove 74A110935 bushing from spar wing fold lug by removing pin and collar, view A.

e. Fabricate doubler, view C. Match mating surfaces of doubler and wing spar to within 0.006 inch (A1-F18AC-SRM-200, WP004 02). Finish doubler to RHR 125.

f. Inspect doubler per Penetrant Method (A1-F18AC-SRM-300, WP004 00).

g. Clean and prepare doubler for bonding (A1-F18AC-SRM-250, WP007 01).



Beryllium

16

h. Fabricate repair bushing, view D. Finish bushing part to RHR 64, and plate part of RHR 125. Heat treat repair bushing to condition AT (NAVAIR 01-1A-9) Section VI, Copper and Copper Base Alloys.

i. Test repair bushing for minimum hardness of Rc34 per (NAVAIR 01-1A-9) Section VIII, Testing and Inspection Hardness Testing.

j. Rework the upper inside corner of spar pocket to 0.25 corner radius for first blend, views B and E.

k. Inspect the upper inside corner of spar pocket per Penetrant Method (A1-F18AC-SRM-300, WP004 00) and Eddy Current (A1-F18AC-SRM-300, WP007 00). Any cracks found require depot engineering disposition.

l. If there are no cracks indicated, remove 0.050 material from spar upper flange for second blend, view E.

m. Repeat NDI inspections. If no cracks are indicated, go to step r.

n. If cracks are indicated, remove material from spar upper flange in 0.050 increments for second blend, view E, followed by NDI inspections.

o. When no cracks are indicated, remove 0.030 more material from spar upper flange for second blend, view E, followed by NDI inspections.

p. If total material removed is more than 0.150, depot engineering disposition is required.

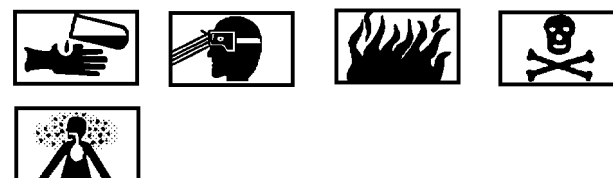
q. Prepare spar surface per Surface Preparation of Aluminum (A1-F18AC-SRM-250, WP007 00), grit blast spar per Surface Preparation (A1-F18AC-SRM-250, WP007 01).



Cleaning Compound

17

r. Clean complete spar lug area using cleaning compound so that all visible signs of grease, oil, and dirt are removed.



Methyl Ethyl Ketone

4

s. Wipe titanium doubler with cleaning cloth moistened with methyl ethyl ketone and let air dry.

t. Liquid hone both sides of doubler.



Adhesive Film

18

u. Form verifilm package per steps below:

(1) Place two layers of verifilm between two plastic sheets with a minimum of 0.5 inch overlap on all sides of verifilm.

(2) Seal all edges of plastic sheet with adhesive tape so as to create a package.

v. Place verifilm package on bonding surface of doubler. Cut a hole in package to align with hole of doubler, and cut a cross-hatch to align with fastener head.

w. Clamp verifilm package between spar lug and doubler. See view F for clamping assembly.

x. Attach five thermocouples to spar lug, one each at forward, aft, top, and bottom surfaces inboard of bushing hole, and one at outboard surface of lug.

y. Heat spar, doubler, and verifilm package using infrared heat source. Bring bondline temperature to $250^{\circ} \pm 10^{\circ}\text{F}$ ($270^{\circ} \pm 30^{\circ}\text{F}$ on thermocouple chart recorder) in 20 to 90 minutes. Soak area at that temperature for one hour, beginning soak cycle when all thermocouples are above 240°F .

NOTE

If one or more thermocouples, with good cause (thermocouple detached from surface, thermocouple in shielded area) do not reach 240°F , use two hour soak cycle beginning when most thermocouples have reached 240°F .

z. Allow area to cool to below 200°F before releasing clamp pressure.

aa. Remove doubler and verifilm package from spar lug.

ab. Clean spar lug with clean rymple cloth moistened with methyl ethyl ketone and let air dry.



Metal Cleaner

3

ac. Brush apply aluminum metal cleaner to bonding surface of aluminum spar lug. Apply at room temperature. To keep from drying out, apply as required to keep wet for at least 15 minutes.

ad. Wipe off aluminum metal cleaner with clean rymple cloth moistened with tap water.

ae. Repeat steps ac and ad.

af. Rinse thoroughly with tap water. Final rinse with deionized water.

ag. Test with blue litmus paper. Repeat final rinse with deionized water, and litmus paper test until paper does not turn red and surface is water break free. If surface is not water break free, repeat steps ac through ag until surface is water break free.

ah. Force dry the area using infrared heat source at a maximum of 150°F being careful not to touch the bonding surface.



Adhesive Primer

19



Cleaned and primed surfaces shall not be handled with bare hands, because skin oils will contaminate the surface. Clean white cotton gloves shall be worn when handling these items.

NOTE

The primer must be stirred and mixed before use. The solids in the primer will settle out quickly. Stir primer continuously while being used. Do not apply primer liberally to bonding surface.

ai. Make a pad using clean cheesecloth for applying primer. Moisten pad with primer and wipe surface to be bonded lightly with pad.

aj. Cure primer for 30 minutes at room temperature, then cure using infrared heat source at $250^{\circ}\text{F} \pm 10^{\circ}\text{F}$ for one hour.

ak. Wrap spar lug with kraft paper to prevent contamination of bonding surface between steps.

al. Alkaline clean as below:



Alkaline Rust Remover

20

(1) Dissolve 3 pounds of alkaline rust remover per gallon of hot (160° to 170°F), water.

(2) Put titanium doubler in a nylon net bag and submerge in the hot alkaline solution for 20 minutes.

(3) Rinse thoroughly in running tap water for 2 to 4 minutes. Inspect doubler for water breaks.

(4) If water breaks occur, repeat substeps (2), (3), and (4).



Titanium Cleaner

21

NOTE

Touch cleaned titanium doubler only with clean cotton gloves. Doubler shall not be allowed to dry completely between alkaline cleaning and rinsing and between metal cleaner treatment and rinsing.

(5) Apply titanium metal cleaner on each side of doubler. Keep surface wet for 15 to 20 minutes.

(6) Rinse in running tap water for 2 to 4 minutes.

(7) Spray with room temperature deionized water for 2 to 4 minutes. Inspect doubler for water breaks.

(8) If water breaks occurs, repeat substeps (6), (7), and (8).

(9) Dry for 30 minutes at 100°F to 175°F in oven or open top dryer.

am. Brush apply titanium cleaning material to bonding surface. Apply at room temperature as required to deep wet for a minimum of 20 minutes.

an. Wipe cleaning material from bonding surface with clean, dry cheesecloth.

ao. Thoroughly remove cleaning material residue from bonding surface with clean cheesecloth saturated with deionized water.

ap. Test surface with litmus paper to verify acid removal.

aq. Rinse bonding surface with tap water and inspect for water-break free surface. If water-break occurs, repeat steps am through ap.



Wear clean cotton gloves to prevent contamination of cleaned bonding surface.

NOTE

After drying, if cleaned bonding surface is not primed or bonded within eight hours, the complete cleaning procedure must be repeated.

ar. Lightly wipe surface dry with clean dry cheesecloth. Dry bonding surface using hot air gun for 30 minutes at 100°F to 175°F.



Adhesive Primer

19

NOTE

Primer must be stirred and mixed before use. The solids in the primer will settle out quickly. Stir primer continuously while being used. Do not apply primer liberally to bonding surface.

as. Make a pad using clean cheesecloth for applying primer. Moisten pad with primer and wipe surface to be bonded lightly with pad.

at. Cure primer for 30 minutes at room temperature, then cure using infrared heat source at 250°F ±10°F for one hour.

au. Wrap doubler with kraft paper to prevent contamination of bonding surface.



Adhesive Film

22



Adhesive film and cleaned or primed surfaces shall not be handled with bare hands, because skin oils will contaminate surface. Clean white cotton gloves shall be worn when handling these items.

av. Apply adhesive per steps below:

(1) Remove white backing from adhesive.

(2) Apply exposed side of adhesive to the primed doubler.

(3) Remove green liner from adhesive (place doubler in freezer for a few minutes or use dry ice to aid removal of green liner).

(4) Repeat substeps (1) through (3) for each layer of adhesive applied. Amount of layers and placement shall be per verifilm evaluation of fit.

aw. Clamp adhesive between spar and doubler. See view F for clamping assembly.

ax. Attach five thermocouples to spar lug, one each at forward, aft, top, and bottom surfaces inboard of bushing hole, and one at outboard surface of lug.

ay. Heat spar, doubler, and adhesive using infrared heat source. Bring bondline temperature to 250°F ±10°F (270°F ±30°F on thermocouple chart recorder) in 20 to 90 minutes. Soak area at that temperature for on hour, beginning soak cycle when all thermocouples are above 240°F.

NOTE

If one or more thermocouples, with good cause (thermocouple detached from surface, thermocouple in shielded area) do not reach 240°F, use two hour soak cycle beginning when most thermocouples have reached 240°F.

az. Allow area to cool to below 200°F before releasing clamp pressure. Remove clamps from spar lug and doubler.

ba. After cure, inspect bond line integrity by doing NDI (A1-F18AC-SRM-300, WP008 06).

bb. Ream wing spar lug/doubler assembly concentrically to 1.4062, +0.0010, -0.0005 diameter at existing bushing hole, view B.

bc. Repeat NDI of bond line integrity using smaller diameter probe. Any unbonds found require depot engineering disposition.

bd. Install repair bushing and filler using pin and collar, view B.

be. Install 74A110907 skin by installing bolts, nuts, and washers, view A.

bf. Install wing fold swivel joint (A1-F18AC-570-300, WP059 00).

bg. Install outer wing (WP020 00).

9. Inboard Pylon Upper Bushing Alignment.

See figure 8. The upper bushing must be positioned so its two tabs on lower side of bushing are inside slots in upper edge of bushing retainer. The bushing is reamed eccentrically with thinnest part inboard. Nickel plating shall be done in method other than electro plating. Cold shrinking bushing is depot level maintenance. For parts information (A1-F18AC-SRM-410, FIG 013 00).

Support Equipment Required

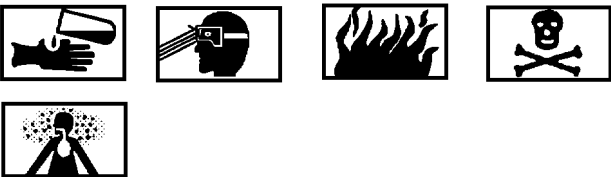
Part Number or Type Designation	Nomenclature
(Fabricate) See figure 8, sheet 4	Bushing Puller

Materials Required

Specification or Part Number	Nomenclature
MIL-P-83952-2, Type 1, Class A (Red) or B (Black)	Pencil, Aircraft Marking
MIL-S-22473, Grade T	Sealing Primer
TT-I-735	Isopropyl Alcohol
MIL-R-46082, Type 1	Retaining Compound
CCC-C-440, Type 1, Class 1	Cheesecloth

Materials Required (Continued)

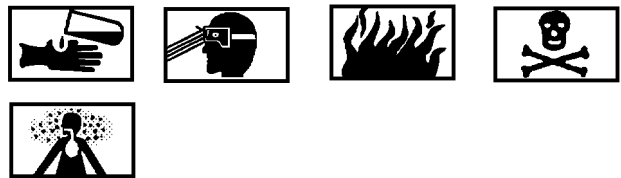
Specification or Part Number	Nomenclature
MIL-S-83430	Sealing Compound
H-T-560	Brush
BB-N-411, Type II, Class 1, Grade A or B	Nitrogen, Liquid
a. Remove door 20 (A1-F18AC-LMM-010).	
b. While installed in structure, try to rotate bushing by hand.	
c. If bushing will rotate by hand do steps below:	
(1) Locate bushing tabs behind retainers, view C.	
(2) Trial fit a pylon. If pylon will not install, remove pylon and rotate bushing until pylon will install.	
(3) Remove pylon and mark bushing tab locations on structure with marking pencil, view C.	
d. If bushing will not rotate by hand, mark location of retainers on structure with marking pencil, view C.	
e. Mark an "X" on the bushing and structure opposite each other to prevent a 180° error when bushing is reinstalled, view C.	
f. Remove retainers and shims by removing bolts, view A.	
g. Fabricate bushing puller per Figure 8, views D, E, F, and G.	
h. Remove upper bushing from structure with bushing puller.	
i. Measure and record bushing outside diameter, view C, and structure inside diameter, view B.	



Isopropyl Alcohol

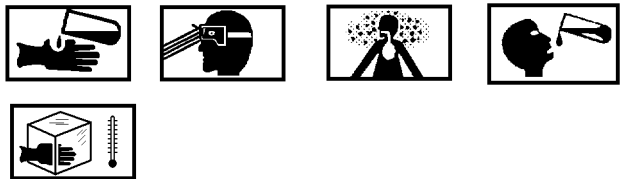
- j. Clean inner diameter surface of structure using isopropyl alcohol and clean, dry cheesecloth.
- k. Lightly ream inside diameter of structure and remeasure.
- l. Clean bushing surfaces using isopropyl alcohol and clean, dry cheesecloth.
- m. Build up outside diameter of bushing with nickel plating to a diameter 0.003 to 0.005 more than the structure diameter hole.

- (1) Nickel plate using method other than electro plating.
- (2) Outside diameter dimensions can be arrived at by plating to a larger diameter and turning down to correct dimension.



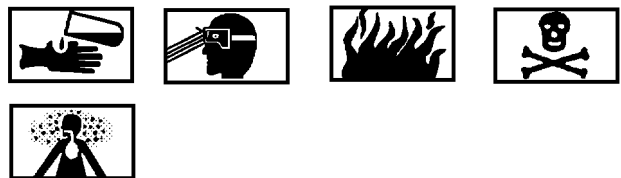
Sealing Primer

- n. Apply primer to inner surface of structure. Allow primer to dry for 15 to 30 minutes at room temperature.



Liquid Nitrogen

- o. Cold shrink bushing.



Retaining Compound

- p. Apply a thin coat of MIL-R-46082 sealing compound to inside surface of structure with a brush.
- q. Immediately align "X's" on the bushing and structure, and bushing tabs with marks on structure,

and install bushing, view C. Remove excess sealing compound with clean cheesecloth dampened with isopropyl alcohol.

r. After 15 minutes, if bushing can be moved, remove bushing and repeat steps k through m.

s. Cure sealing compound for 2 hours at room temperature.

t. Trial fit pylon. If pylon cannot be installed, determine new rotation for bushing and repeat procedure from step d.



Sealing Compound



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u. Seal top and bottom of bushing/structure interface with MIL-S-83430 sealing compound (A1-F18AC-SRM-200, WP011 00).

v. Install retainers and shims with bolts, view A.

w. Install door 20 (A1-F18AC-LMM-010).

10. Inboard Pylon Lower Bushing Alignment.
See figure 9. Lower bushing rotating more than ± 0.10 inch will prohibit the installation of pylon. Bushing is aligned by establishing location lines on bushing and lower skin. Cold shrinking and removal of lower bushing is depot level maintenance. For parts information (A1-F18AC-SRM-410, FIG 013 00).

Support Equipment Required

Part Number or Type Designation	Nomenclature
-	Torque Wrench, 0 to 200 Inch-Pounds

Materials Required

Specification or Part Number	Nomenclature
M83953-2	Pencil, Aircraft
MIL-S-22473 Grade T, Form R	Sealing Primer
MIL-R-46082, Type 1	Retaining Compound

Materials Required (Continued)

Specification or Part Number	Nomenclature
TT-I-735	Isopropyl Alcohol
CCC-C-440, Type 1, Class 1	Cheesecloth
BB-N-411, Type II, Class 1, Grade A or B	Nitrogen, Liquid
MIL-S-83430, Class A-1/2	Sealing Compound

a. Remove door 20 (A1-F18AC-LMM-010).

b. Remove four bolts at hole location 443, 444, 448 and 449 securing 74A110866 shims and 74A110847 supports to 74A110606 spar, views A and D.

c. Rotate 74A110847 supports until upper groove of supports clear 74A110606 upper bushing tabs.

NOTE

Retain shims and/or note thickness for use on installation.

d. Remove 74A110866 shims and 74A110847 supports from 74A110606 spar hole.

e. Remove 74A110606 lower bushing from 74A110606 spar by pressing up.

f. Rotate lower bushing in spar well until flats on bushing are in line with spar hole diameter and remove, view C.



Isopropyl Alcohol

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g. Clean inside hole diameter in spar and outside diameter of bushing with clean cheesecloth moistened with isopropyl alcohol.

NOTE

Dimensions exceeding blue print tolerance given in steps h and i require a depot engineering disposition.

h. Check outside diameter of bushing for 4.3789 +0.0000 -0.0009 inch blue print tolerance, view C.

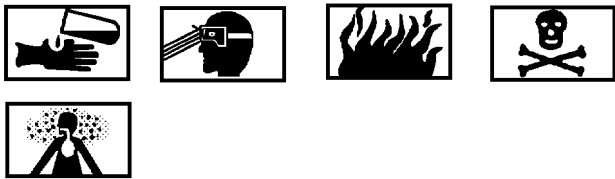
i. Check inside hole diameter of spar for 4.3750 +0.0014 -0.0000 inch blue print tolerance, view D.

NOTE

Hole in 74A110606 lower bushing is drilled eccentrically. Locating minimum wall thickness on bushing is important for alignment of bushing to spar.

j. Locate minimum wall thickness within ±0.10 inch radially on 74A110606 lower bushing and mark location line as shown on view C.

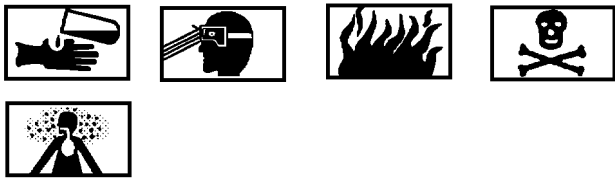
k. Mark location line on 74A110601 lower skin using centerline of hole numbers 443 and 449, view D.



Sealing Primer 23

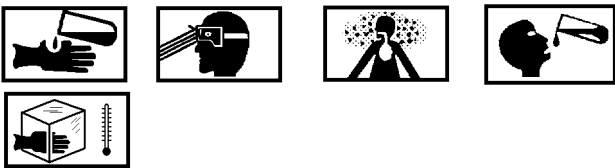
l. Apply one coat of primer to inside hole diameter of 74A110606 spar.

m. Allow primer to air dry for 15 to 30 minutes at room temperature.



Retaining Compound 25

n. Apply one coat of MIL-R-46082 sealing compound to hole diameter of 74A110606 spar.



Liquid Nitrogen 24

o. Cold shrink bushing.

NOTE

Make sure bushing is installed with minimum wall thickness outboard.

p. Align flats on bushing with hole diameter in spar and insert bushing in spar well, view C.

q. Align location line on bushing with location line on 74A110601 lower skin and press in position, view D.

r. Allow sealing compound to cure at room temperature for 6 hours.

s. Insert 74A110866 shims and 74A110847 supports in 74A110606 spar well.

t. Rotate 74A110847 supports until grooves are seated with tabs on 74A100606 upper bushing.

u. Install four bolts at hole location 443, 444, 448 and 449 and torque to 50 - 100 inch pounds, view D.



Sealing Compound 8

v. Seal interfacing surfaces of 74A110606 upper bushing and 74A110847 supports using sealing compound, view A. For sealant preparation and application (A1-F18AC-SRM-200, WP011 00).

w. Install door 20 (A1-F18AC-LMM-010).

11. **Trailing Edge Flap Deflection Limiting Support Assembly, Wear Damage.** See figure 10. Remove wear damage on 161353 THRU 161944. Repair procedure is depot level maintenance.

Support Equipment Required

None

Materials Required

Specification or Part Number	Nomenclature
CSR904B-5-7	Rivet

- a. Remove pin and collar from channel, view A.
- b. Trim channel flange, view D.

c. Blend wear damage per views B and C.

d. Install rivet in channel at location of pin and collar, view A.

e. Refinish repaired area (A1-F18AC-SRM-500, WP027 00).

12. **Bushings, Trailing Edge Flap Hinges, Removal and Installation.** See figure 11. Removal and installation is depot level maintenance. For replacement part (A1-F18AC-SRM-410, FIG 013 00).

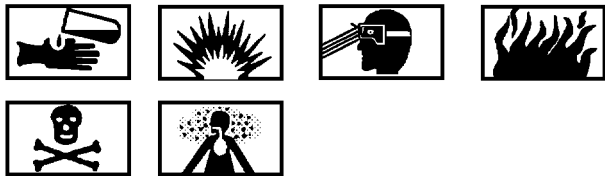
Support Equipment Required

None

Materials Required

Specification or Part Number	Nomenclature
CCC-C-440 Type 1, Class 1	Cheesecloth
MIL-C-38736	Cleaning Compound

a. Remove damaged bushing.



Cleaning Solvent

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To avoid contamination of cleaning compound, always pour onto clean cheesecloth. Never dip cheesecloth into cleaning compound.

b. Clean area by wiping with clean cheesecloth moistened with cleaning compound.

c. Wipe dry with clean cheesecloth.

d. Install bushing per cold shrink method.

e. Ream outboard bushing per view C and inboard bushing per view D.

13. **Forward Wing Shear Tie Elongated Holes Repair.** Repair of shear tie is depot level maintenance.

Support Equipment Required

None

Materials Required

Specification or Part Number	Nomenclature
NAS6306U11	Bolt
4M38A616L	Laminated Washer
NAS1291C6M	Nut
AN960JD616L	Washer

a. Remove door 34, (A1-F18AC-LMM-010).

b. If shear tie is not accessible through door 34, remove inboard leading edge flap (A1-F18AC-570-300, WP028 00). Removal of flap is not mandatory.

c. Remove support - shear tie/root rib, leading edge extension. For illustrated parts breakdown (A1-F18AC-SRM-410, FIG 003 00).

d. Remove bolts from wing leading edge extension shear tie adapter.

e. Mate drill elongated holes through adapter and support to 0.3745 diameter.

f. To get correct clamp-up, insert laminated washers as required, on bolt between support and adapter, for a minimum gap of 0.005.

g. Install replacement bolts, washers, and nuts. Install bolts wet with sealant (A1-F18AC-SRM-200, WP011 00).

h. Install support (A1-F18AC-SRM-410, FIG003 00).

i. If removed, install inboard leading edge flap (A1-F18AC-570-300, WP028 00).

j. Install door 34 (A1-F18AC-LMM-010).

14. **Corrosion Damage Repair For Structure Under Doors 78, 79, and 82.** See figure 12. Removal of corrosion from inner wing structure is depot level maintenance.

Support Equipment Required

Part Number or Type Designation	Nomenclature
-	Plastic Scraper
74D110325-1001	Aircraft Structure Repair Tool Kit

Materials Required

Specification or Part Number	Nomenclature
CCC-C-440, Type 1, Class 1	Cheesecloth
TT-T-735	Isopropyl Alcohol
EA9317A/B	Adhesive, Liquid Shim
MIL-S-83430, Class A-1/2	Sealing Compound
VV-P-236	Petrolatum, Technical
AMS5629, PH13-8MO Cres 0.6250 Diameter Rod	Bushing Material
BB-N-411, Type II, Class 1, Grade A or B	Nitrogen, Liquid

a. Remove doors 78, 79, and 82 (A1-F18AC-LMM-010).

b. Remove form in place seal using a plastic scraper.

c. Remove gang channel and/or plate nut located in repair area (A1-F18AC-SRM-200, WP004 05).

NOTE

Blend the minimum amount of material needed to remove corrosion damage.

d. Blend corrosion damage from structure. For blending (A1-F18AC-SRM-250, WP 038 00).

e. Determine zone of blended corrosion damage per view A.

f. Determine if blended area is within maximum allowable blend depth limits for zones A, B, C, or D, per table 1. If blend depth is within limits, go to step o.

g. If blend depth is past maximum limits for zones A, B, C, or D, determine new zone of blended corrosion damage per view B.

h. If blended area is not within a zoned area per view B, a depot engineering disposition is required.

i. Determine if blended area is within maximum allowable blend depth limits for zones E, F, G, H, J, or K, per table 1. If blend depth is within limits, go to step k.

j. If blend depth is past maximum limits for zones E, F, G, H, J, or K, per table 1, a depot engineering disposition is required.

k. Ream fastener hole to diameter required to meet minimum allowable bushing wall thickness per table 1.

l. Deburr reamed hole.

NOTE

Blend and spot face areas exceeding the following limits require a depot engineering disposition.

m. Spot face a flat at reamed fastener hole location, views E and F:

(1) Minimum spot face diameter is reworked fastener hole diameter plus 0.22 inch.

(2) Edge of spot face must be 0.2 inch from edge of part, machined step, or center of any rivet.

(3) Spot face shall have a 0.06 inch minimum fillet radius, view F.

n. Fabricate bushing from PH13-8MO CRES, 0.6250 inch diameter rod per steps below:

NOTE

Fabricate bushing for Zone E per view L.
Fabricate bushing for zones F, G, H, J, and K per view G.

(1) Measure and record inside diameter of reworked fastener hole.

NOTE

Heat treating bushing to condition H1000 will cause 0.0005 inch dimensional contraction. Incorporate this dimension when determining outside diameter for interference fit.

(2) Finish outside diameter surface of bushing 125 RHR or better with 0.0015 inch to 0.0025 inch interference fit to reworked fastener hole.

(3) 0.050 inch flange for bushing in zones F, G, H, J and K, view G.

(4) Flange thickness as required to restore original structure thickness for bushing in zones F, G, H, J, and K, view G.

(5) Total length of bushing to be same as structure thickness.

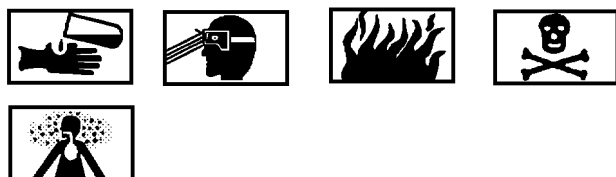
(6) Wall thickness per limits in table 1.

(7) Hole diameter to be drilled in exact center of bushing, maintaining minimum allowable bushing wall thickness. For hole diameters, refer to Replacements (WP005 00).

(8) Heat treat and age to condition H1000.

(9) Do Penetrant Inspection (A1-F18AC-SRM-300, WP004 00).

(10) Cadmium plate outside diameter per QQ-P-416, Class 1, Type II.



Isopropyl Alcohol

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o. Clean repair area with clean cheesecloth moistened with isopropyl alcohol.

p. Apply chemical treatment to any exposed aluminum surface and fastener hole (A1-F18AC-SRM-500, WP008 00).

q. Apply finish system as required (A1-F18AC-SRM-500, WP027 00).



Sealing Compound

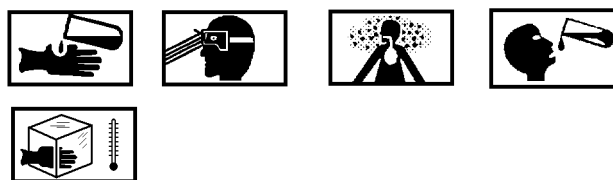
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NOTE

Steps r thru u apply to zones E, F, G, H, J, and K only.

r. Prepare MIL-S-83430 sealing compound. For sealant preparation and application (A1-F18AC-SRM-200, WP011 00).

s. Apply one coat of sealing compound to reworked hole diameter in structure.



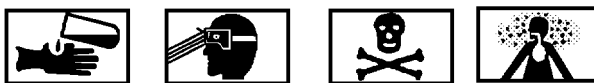
Liquid Nitrogen

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t. Cold shrink bushing and immediately insert into reworked hole in structure, views E, F, J, and K.

u. Fillet seal around bushing and structure interface using sealing compound, views F and K, (A1-F18AC-SRM-200, WP011 00).

v. Install gang channel and/or plate nut that was removed from repair area (A1-F18AC-SRM-200, WP004 05).



Adhesive

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w. Prepare liquid shim adhesive:

(1) Combine 100 parts by weight of part A with 26 parts by weight of part B.

(2) Mix thoroughly until a uniform color appears without streaks or lumps.

NOTE

Application of liquid shim adhesive must begin within 15 minutes after mixing.

x. Application of liquid shim adhesive, views D, F, and K:



Petrolatum, Technical

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(1) Apply petrolatum to area of doors and fasteners contacting liquid shim adhesive.

(2) Apply 0.2 inch thick layer of liquid shim adhesive to areas that were blended or spot faced.

(3) Temporarily install doors 78, 79, and 82 (A1-F18AC-LMM-010). Do not install fasteners with sealant.

(4) Allow liquid shim adhesive to cure to a hard, non-tacky condition.

(5) Remove doors 78, 79, and 82 (A1-F18AC-LMM-010).

(6) Clean up any residual liquid shim adhesive remaining from squeeze out.

y. Apply form in place seal on structure (A1-F18AC-SRM-500, WP 010 00).

z. Install doors 78, 79, and 82. Install fasteners wet with sealing compound (A1-F18AC-LMM-010).

15. 74A110959 Inboard Trailing Edge Flap Hinge Half Cracked Flange Repair. See figure 13. Repair of crack in 74A110959 hinge half is organizational maintenance. Inspection of crack using eddy current method is intermediate maintenance.

Support Equipment Required

Part Number or Type Designation

Nomenclature








74D110325-1001

Aircraft Structure
Repair Tool Kit

-

Torque Wrench,
0 to 120 Inch-Pounds

Table 1. Corrosion Damage Repair Limits

Zone	Maximum Allowable Blend Depth	Minimum Allowable Bushing Wall Thickness
A	0.010	
B	0.015	
C	0.025	
D	0.045	
E	0.025	 0.030
F	0.040	0.060
G	0.045	0.030
H	0.050	0.030
J	0.060	0.060
K	0.060	0.030
LEGEND  Not Applicable  Fabricate bushing without 0.050 inch flange.		

Materials Required**NOTE**

Alternate item specifications or part numbers are shown in parentheses.

**Specification
or Part Number****Nomenclature**

MIL-S-5059, Comp. 301, Cond. 1/2 Hard, 0.050 Thick	301 CRES Sheet (For Repair Angle)
ST3M724N1M12-3, (G12094J4-12)	Gang Channel (1)
MS20426AD3-()	Rivet, Solid Flush Tension Head (2)
AN960C516L	Washer
ST3M404C4, (E10080-4)	Nut, Slotted (1)
MS24665-153	Cotter Pin
CCC-C-440, Type 1, Class 1	Cheesecloth
■ TT-I-735	Isopropyl Alcohol
MIL-S-83430, Class A-1/2	Sealing Compound

a. Remove trailing edge flap (A1-F18AC-570-300, WP039 00).



Position and protect servocylinder piston rod from damage and loose debris when performing this repair.

b. Remove 74A180696 connecting link from 74A110959 hinge half (A1-F18AC-570-300, WP039 00).

c. Remove 74A110683 seal assembly. For fastener information (A1-F18AC-SRM-410, FIG 013 00).

d. Drill out two rivets securing gang channel to 74A110959 hinge half flange, view A.

e. Remove gang channel from lower flange.

f. Penetrant and eddy current inspect to locate end of crack (A1-F18AC-SRM-300, WP004 00 and WP007 00).

NOTE

A depot engineering disposition is required if crack extends into ear of hinge half attach point.

g. Rout out crack to 0.50 inch diameter slot, view A.

h. Reinspect to make sure crack does not extend past slot.

i. Fabricate repair angle to dimensions shown on view B.

j. Locate 74A180696 connecting link on 74A110959 hinge half, view A.

k. Position repair angle next to outboard ear of 74A180696 connecting link and inspect for proper fit, views C and D.

l. Secure repair angle in place using C-clamps.

m. Back drill three 0.250 +0.006 -0.000 inch diameter fastener holes from 74A110959 hinge half into repair angle leg, view A.

NOTE

The existing gang channel is replaced with ST3M724N1M12-3 (G12094J4-12) gang channel to compensate for the 0.050 inch material thickness of repair angle.

n. Loosen C-clamps and locate replacement gang channel on repair angle.

o. Tighten C-clamps and back drill two 0.098 +0.005 -0.000 inch diameter rivet holes from 74A110959 hinge half into repair angle leg and gang channel, view A.

p. Remove C-clamps and gang channel.

q. Install temporary fasteners to secure repair angle to 74A110959 hinge half.

- r. Remove 74A180696 connecting link.



Use care not to damage bushings in 74A110959 hinge half when locating center point in repair angle.

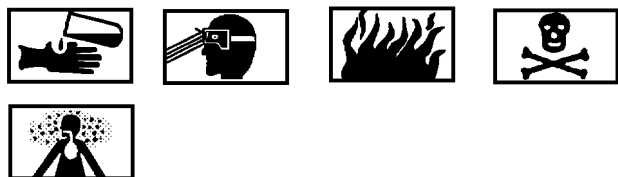
- s. Locate center point in repair angle flange using 74A110959 hinge half connecting link attach point as guide.

- t. Remove temporary fasteners and repair angle from 74A110959 hinge half.

- u. Drill 0.128 inch diameter pilot hole in center point of repair angle flange.

- v. Open pilot hole to 0.3125 +0.003 -0.000 inch diameter.

- w. Deburr holes in repair angle and gang channel.



Isopropyl Alcohol

9

- x. Clean repair angle, gang channel, and repair area using clean cheesecloth moistened with isopropyl alcohol.

- y. Wipe area with clean dry cheesecloth.

- z. Apply chemical treatment to routed slot and any exposed metal on 74A110959 hinge half (A1-F18AC-SRM-500, WP008 00).

- aa. Apply finish system to repair angle, gang channel, and 74A110959 hinge half (A1-F18AC-SRM-500, WP027 00).



Sealing Compound

8

- ab. Lay surface seal mating surfaces of gang channel, repair angle, and hinge half. For sealant preparation and application (A1-F18AC-SRM-200, WP011 00).

- ac. Install rivets wet with sealing compound, two places, attaching gang channel to repair angle and 74A110959 hinge half.

- ad. Locate 74A180696 connecting link in position on 74A110959 hinge half, view A.

NOTE

Omit washer from under bolt head to compensate for the 0.050 inch material thickness of repair angle.

- ae. Install bolt through repair angle and into 74A180696 connecting link and 74A110959 hinge half, view A.

NOTE

Replace AN960C516 washer located under nut with AN960C516L washer to compensate for the 0.050 inch material thickness of repair angle.

- af. Install both washers and nut on bolt, view A.

- ag. Torque nut to 30-40 inch pounds and safety with cotter pin. (QA)



Make sure connecting link moves freely and does not bind with repair angle.

- ah. Install 74A110683 seal assembly. For fastener information (A1-F18AC-SRM-410, FIG 013 00).

- ai. Fill routed slot area with sealing compound to prevent water entrapment, view C.

- aj. Touch up finish system as required (A1-F18AC-SRM-500, WP027 00).

- ak. Install trailing edge flap (A1-F18AC-570-300, WP039 00).

16. Outboard Pylon Bushing Alignment. See figure 14. Bushing rotating more than ± 0.10 inch will prohibit the installation of pylon. Bushing is aligned

by establishing location lines on bushing and lower skin. Cold shrinking and removal of outboard bushing is depot level maintenance. For parts information (A1-F18AC-SRM-410, FIG 013 00).

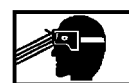
Support Equipment Required

Part Number or Type Designation	Nomenclature
-	Torque Wrench, 0 to 120 Inch-Pounds

Materials Required

Specification or Part Number	Nomenclature
M83953-2	Pencil, Aircraft
MIL-S-22473, Grade T, Form R	Primer, Sealing
TT-I-735	Isopropyl Alcohol
MIL-R-46082, Type 1	Retaining Compound
CCC-C-440, Type 1, Class 1	Cheesecloth
MIL-S-83430, Class A-1/2	Sealing Compound
BB-N-411, Type II, Class 1, Grade A or B	Nitrogen, Liquid

- a. Defuel aircraft (A1-F18AC-PCM-000).
- b. Remove door 21 (A1-F18AC-LMM-010).
- c. Remove upper cover 74A110930 by removing seven fasteners on upper surface of wing.
- d. Remove four screws securing 74A110845 retainers to 74A110641 bushing, view B.
- e. Remove 74A110845 retainer and 74A110846 wear plate, view B.
- f. Remove 74A110641 bushing per Procedures-Disassembly of Mated Parts After Curing (A1-F18AC-SRM-200, WP004 21).



Isopropyl Alcohol

9

g. Clean inside hole diameter of structure and outside diameter of bushing with clean cheesecloth moistened with isopropyl alcohol.

NOTE

Dimensions exceeding blueprint tolerances given in steps h through k require a depot engineering disposition.

h. Check upper outside diameter of bushing for 3.1279 +0.0000 -0.0007 inch blueprint tolerance, view C.

i. Check lower outside diameter of bushing for 4.3789 +0.0000 -0.0009 inch blueprint tolerance, view C.

j. Check upper inside diameter of structure for 3.250 +0.010 -0.010 inch blueprint tolerance, view B.

k. Check lower inside diameter of structure for 4.3750 +0.0014 -0.0000 inch blueprint tolerance, view B.

NOTE

Inside hole diameter in 74A110641 bushing is drilled eccentrically. Correct location of bushing in structure is essential for proper installation of pylon on wing.

l. Locate pylon centerline on 74A110641 bushing lower forward surface, view C:

(1) Transfer extension lines to bushing lower outside diameter using centerline of retainer attach holes as reference.

(2) Locate a midpoint mark between the two extension lines.

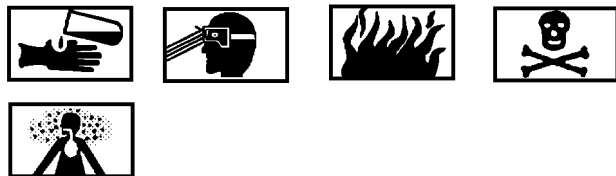
(3) Mark a location line on the lower forward bushing surface using midpoint mark as reference.

m. Locate pylon centerline on lower skin surface, view D:

(1) Transfer extension lines to lower skin using center point of hole numbers 356, 361 and 365, 366.

(2) Locate midpoint mark on each extension line.

(3) Mark a location line on lower skin surface using midpoint marks as reference.

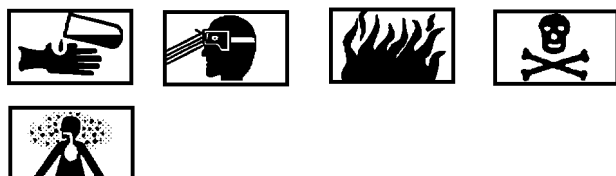


Sealing Primer

23

n. Apply one coat of primer to inside diameter structure.

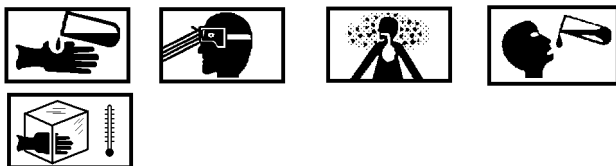
o. Allow primer to air dry for 15 to 30 minutes at room temperature.



Retaining Compound

25

p. Apply one coat of retaining compound to inside hole diameter on structure that will contact 74A110641 bushing.



Liquid Nitrogen

24

q. Cold shrink bushing.

r. Align location line on bushing with location line on lower skin and press in position, view D.

s. Allow retaining compound to cure at room temperature for 6 hours.

t. Locate 74A110846 wear plate and 74A110845 retainers in position, view B.



Sealing Compound

8

u. Install four screws wet with sealing compound securing 74A110845 retainers to 74A110641 bushing and torque to 50 ±10 inch pounds. For sealant preparation and application (A1-F18AC-SRM-200, WP011 00).

v. Install door 21 (A1-F18AC-LMM-010) and 7 fasteners securing 74A110930 pylon cover located on upper wing surface.

17. Inboard Pylon Lower Bushing Removal. See figure 16. This procedure is for a bushing that is not damaged, and has not been rotated, but is being removed to aid in other maintenance tasks. Bushing removal and installation is depot level maintenance.

Support Equipment Required

None

Materials Required

Specification or Part Number	Nomenclature
QQ-A-225/8 Cond. O	Aluminum Alloy, 2.0 Inch Thick (For Pad)
QQ-A-220/8 Cond. O	Aluminum Alloy, 1.5 Inch Diameter (For Handle)
MIL-P-83952-2 Type 1, Class A or B (Red or Black)	Aircraft Marking Pencil

a. Remove door 20 (A1-F18AC-LMM-010).

b. Remove four bolts securing 74A110866 shims and 74A110847 supports to 74A110606 spar, view A.

c. Rotate supports until upper groove of supports clear inboard pylon upper bushing tabs, view A.

NOTE

Retain shims and/or note thickness for use on reinstallation.

d. Remove 74A110866 shims and 74A110847 supports from pylon post hole in 74A110606 spar.



Make sure aluminum pad material is in the O-heat treat condition. Aluminum pad material shall be 4.00 inches in diameter or a diameter smaller than lower skin opening.

e. Fabricate aluminum pad and handle per dimensions, view B. Weld handle to center of pad.

f. Mark location line on lower skin and lower surface of bushing for correct positioning of bushing during reinstallation.

g. Remove bushing from structure by tapping bushing up into spar well using aluminum pad and plastic mallet.

NOTE

If bushing will not remove from spar, do step below.

h. Using a plastic mallet, tap bushing up against a hard point (pylon post locking device), which is on the forward side of the hole. Then tap the aft lower surface of the bushing until it cocks and springs loose out of spar.

i. Rotate bushing in hole until flats on bushing are aligned with spar hole diameter. Remove bushing from hole.

j. Inspect bushing for damage. Damaged bushing requires replacement using depot level tooling procedures (WP004 04).

k. If bushing is not damaged, reinstall bushing using the cold shrink method. Align location lines on bushing lower surface and lower skin when positioning in spar.

l. Install 74A110866 shims and 74A110847 supports between upper and lower bushings, view A.

m. Install four bolts securing supports and shims to spar, view A.

n. Install door 20 (A1-F18AC-LMM-010).

18. Inboard Pylon Wear Plate Replacement.
See figure 17. Correct wear plate installation puts the

thin end of the tapering thickness on the inboard side of the wear plate, and the forward edge radius down to fit the spar radius.

Support Equipment Required

None

Materials Required

Specification or Part Number	Nomenclature
HL570-8MC	Collar (as required)
HLT53DL-8-()	Pin, Threaded
MIL-S-83430	Sealing Compound
CCC-C-400, Type 1, Class 1	Cheesecloth
TT-I-735	Isopropyl Alcohol

a. Remove door 20 (A1-F18AC-LMM-010).

NOTE

Fasteners attaching wear plate to spar are interference fit. Do not remove them from spar.

b. Remove collars from screws attaching wear plate to spar, at hole numbers 442 and 450, view B.

c. Remove wear plate from pins and spar.

d. Remove sealing compound from mating surface of spar, where wear plate was attached, using 240 grit abrasive paper.



Isopropyl Alcohol

9

e. Wipe sanded area with clean cheesecloth moistened with isopropyl alcohol.

f. Wipe area with clean dry cheesecloth.

g. Get replacement 74A110848 wear plate. For parts information (A1-F18AC-SRM-410, FIG 013 00).



Make sure wear plate is positioned correctly before installing on spar. Damage to spar may occur.

h. Install replacement wear plate:



Sealing Compound

8

(1) Fay seal mating surfaces of wear plate and spar using sealing compound. For sealing compound preparation and application (A1-F18AC-SRM-200, WP011 00).

NOTE

Part number markings, indicating left or right side part, may disagree with actual installation of wear plate. It is allowable, provided the wear plate is located per the steps below.

(2) Position wear plate in place over pins and onto spar, with thin end of tapering thickness on the inboard side of the wear plate, and the forward edge radius down to fit the spar radius, views B and C.

(3) Install collars on pins.

i. After cure, fillet seal around periphery of wear plate with sealing compound (A1-F18AC-SRM-200, WP011 00).

j. Touch up lower skin and/or fastener finish system as required (A1-F18AC-SRM-500, WP027 00).

k. Install door 20 (A1-F18AC-LMM-010).

19. Repair Of Damage To 74A110959 Hinge Half Caused By Trailing Edge Flap Actuator. See figure 18. Repair of 74A110959 hinge half is depot level maintenance and requires authorization and supervision by depot engineering personnel. A plaster splash cast is used to duplicate the surfaces of the damaged hinge half, aft spar, aft kick rib and aft closure rib to mate with the repair doubler.

Support Equipment Required

None

Materials Required

Specification or Part Number

Nomenclature

AMS 4108, Cond. T7452	7050-T7452 Al Alloy Hand Forged Billet (For Repair Doubler)
HLT310TB-8-()	Pin (26)
AN960JD416L	Washer
NAS1291C4M	Nut
HLT50YB-8-()	Pin (2)
SW1000-8M	Collar (2)
HLT310TB-6-()	Pin (3)
HL570-6MC	Collar (As Required)
HL570-8MC	Collar (As Required)
EA9321A/B	Adhesive
MIL-S-83430, Class-1/2	Sealing Compound
A-A-1048, Type 1, Class 1 Grit 320, 9x11	Cloth, Abrasive
CCC-C-440, Type 1, Class 1	Cheesecloth
MIL-G-3866, Type 1	Gloves, Cotton Work, Men's
TT-I-735	Isopropyl Alcohol



The work packages referenced in steps a, b, and c include procedures for positioning the trailing edge flap. These procedures need only be performed once and must not be duplicated in steps b and c, or damage to the aircraft may occur.

a. Remove trailing edge flap shroud, refer to Replacements, (WP007 00).

b. Remove trailing edge flap servocylinder (A1-F18AC-570-300, WP040 00).

c. Remove trailing edge flap (A1-F18AC-570-300, WP039 00).



Position and protect servocylinder and hydraulics from damage and contaminants when performing this repair.

d. Determine if damage is within allowable repair zone, view A. This repair procedure may not be used if material must be removed past allowable repair zone.

e. Remove fastener attaching hardware from upper flanges of aft spar and aft kick rib, see sheet 1.

f. Remove 16 fasteners securing hinge half to aft spar, aft kick rib and aft closure rib, view B (A1-F18AC-SRM-200, WP004 06).

g. Trim damaged flange to remove cracks, maintaining a minimum corner radius along the flange edge of 0.50 inches, view A.

h. Trim and blend adjacent web to remove damage.

i. Do penetrant and eddy current inspect to verify that all damage has been removed. (A1-F18AC-SRM-300, WP004 00 and WP007 00).

j. Fabricate a plaster splash cast of the forward side of the hinge half web, and adjacent aft spar web, aft kick rib flange and aft closure rib flange, to provide a pattern for the repair doubler perimeter and mating surfaces shown in view C.

k. Fabricate repair doubler, minus fastener holes, from hand forged billet to conform to surfaces and perimeter defined by plaster cast, and per definition, view D.

l. Secure repair doubler in place and mate drill several 0.128 inch diameter pilot holes in the repair doubler at locations which coincide with existing fastener holes.

m. Remove repair doubler and enlarge pilot holes to full size.

n. Lay out pattern for 15 new fastener holes in doubler per definition, view D.

o. Deburr repair doubler and secure in place with temporary fasteners.

p. Mate drill all remaining fastener holes.

q. Grip gage all open fastener holes to determine fastener length for installation.

r. Remove repair doubler and deburr both repair doubler and hinge half.



Isopropyl Alcohol

9

NOTE

Handle repair surfaces with clean white cotton gloves during and after cleaning procedures.

s. Clean repair doubler and mating surface areas of hinge half, aft spar, aft kick rib and aft closure rib using clean cheesecloth moistened with isopropyl alcohol.

t. Wipe area with clean dry cheesecloth.

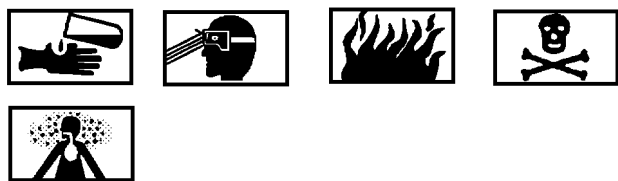
u. Apply chemical treatment to repair doubler and all bare metal surfaces (A1-F18AC-SRM-500, WP008 00).

v. Surface treat repair fitting with a minimum 0.0010 inch thick aluminum IVD coating.

w. Apply hinge half finish system to repair doubler and to hinge half as required (A1-F18AC-SRM-500, WP027 00).

x. After finish system is cured, lightly abrade mating surfaces of repair doubler, hinge half, aft spar, aft kick rib and aft closure rib with 320 grit abrasive to remove gloss but not to remove paint or primer.

y. Remove sanding dust with clean cheesecloth moistened with isopropyl alcohol.



Adhesive

5

z. Bond repair doubler to hinge half, aft spar, aft kick rib and aft closure rib using adhesive, (A1-F18AC-SRM-200, WP011 00).

NOTE

Install fasteners before adhesive is fully cured.



Sealing Compound

8

aa. Wet install fasteners with sealing compound. For fastener information, view K. For fastener installation (A1-F18AC-SRM-200, WP004 06). For sealant preparation and application (A1-F18AC-SRM-200, WP011 00).

ab. Seal bondline with sealing compound. For sealant preparation and application (A1-F18AC-SRM-200, WP011 00).

ac. Replace attaching hardware removed from upper flanges of aft spar and aft kick rib. For attaching hardware information, refer to Replacements, (WP005 00).

ad. Install trailing edge flap, (A1-F18AC-570-300, WP039 00).

ae. Install trailing edge flap servocylinder, (A1-F18AC-570-300, WP040 00).

af. Install trailing edge flap shroud, refer to Replacements, (WP007 00).

20. REPLACEMENT.

21. SEALS (74A110682). Fastener attaching hardware is shown on figure 15. For fasteners (A1-F18AC-SRM-410, FIG 013 00). For fay sealing (A1-F18AC-SRM-200, WP011 00). For repair of gang channels, plate nuts, replacement rivets and attaching gang channels (A1-F18AC-SRM-200, WP004 05).

22. Trimming Procedures for Inner Wing Lower Seals P/N 74A110682-2017/2018. See figure 19.

Trimming procedures are required to provide clearance for trailing edge flaps modified per repair drawing number 74R092037 in accordance with IAYC 1076 and Amendment 1.

Support Equipment Required**Specification
or Part Number****Nomenclature**

-

Scraper, Wooden or Phenolic

Materials Required**Specification
or Part Number****Nomenclature**

MIL-C-81706, Class A

Chemical Conversion
Coating for Aluminum

M83953-2

Pencil, Aircraft

MIL-C-85285, Type 1

Polyurethane Coating

MIL-P-85582/Type 2

Primer, Epoxy

JR1

Sanding Drum, 3/4 Inch
Diameter

a. Install flap control surface lock, P/N 74D750005-1005, in accordance with A1-F18AC-PCM-000, WP024 00.

b. Remove sealant from the lower outboard edge of the flap splice plate P/N 74R092037 using a non-metallic scraper.

c. Place a straight edge (steel ruler or equivalent) against the lower outboard edge of the splice plate and, using an aircraft pencil, transcribe the location of the splice plate lower outboard edge onto the lower surface of the inner wing lower seal P/N 74A110682. This will be the reference line.

d. Remove flap control surface lock, P/N 74D750005-1005, in accordance with A1-F18AC-PCM-000, WP024 00, and allow flap to return to full down position.

e. Draw a line, parallel to the reference line, 0.35 inches outboard of reference line. This line will be the outboard trim line.

NOTE

Total width between inboard and outboard lines should not exceed 4.30 inches.

f. Draw a line, parallel to reference line, 3.95 inches inboard of reference line. This will be the inboard trim line.

g. Draw a line, perpendicular to the inboard and outboard trim lines, 0.70 inches forward of trailing edge of the lower seal. This will be the forward trim line.

h. Draw .38 inch corner radii between the forward trim line and the inboard and outboard trim lines. This will reduce stress concentrations at inside corners of trimmed area.

WARNING

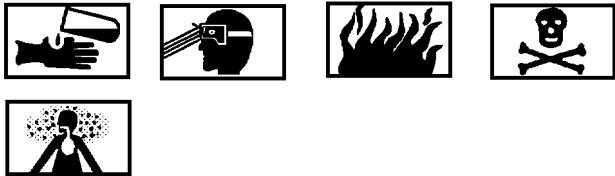
Eye protection is required. Avoid inhaling metal and paint airborne dust.

CAUTION

Do not damage or trim P/N 74A110683 Zee or the aft inner wing spar while trimming the seal. If the trim area overlaps any other structure, contact Depot engineering for disposition.

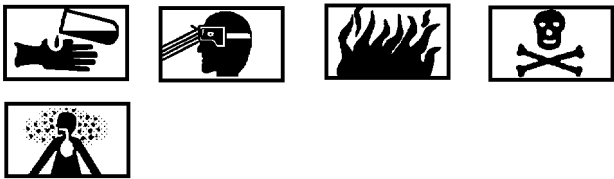
Ensure maximum trim does not exceed 0.70 inches forward of the lower seal trailing edge and 4.30 inches in width.

i. Carefully trim metal to dimensions shown in figure 19. Finish all edges to 125 RHR.

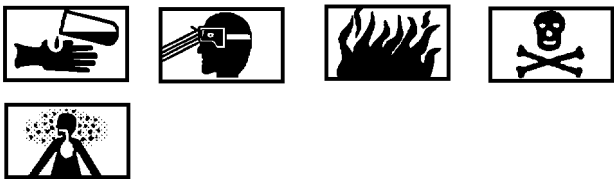


Conversion Coating 27

j. Chemical conversion coat all bare metal surfaces of the trimmed lower seal in accordance with A1-F18AC-SRM-500, WP 008 00.



Epoxy Primer 28



Polyurethane Coating 29

k. Apply one coat of primer, followed by one coat of polyurethane topcoat, in accordance with A1-F18AC-SRM-500, WP011 00 and WP012 00.

l. Repeat interference check to ensure zero contact between flap splice and inner wing seal.

m. Perform flap rigging procedure in accordance with A1-F18AC-570-300, WP040 00.

n. Remove applicable safety and protective devices per A1-F18AC-PCM-000, WP023 00 and WP024 00.

o. Return aircraft to flight status or as directed by maintenance control.

23. **FILLER (74A110821).** Filler is bonded to splice plate. Removal and bonding of filler is for replacement and to replace plate nuts under filler.

Support Equipment Required

None

Materials Required

Specification or Part Number	Nomenclature
MIL-A-9962	Mat, Abrasive
MIL-S-83430	Sealing Compound
PR146 Blue	Cleaning Compound
CCC-C-440, Type 1, Class 1	Cheesecloth
TT-I-735, Grade 1	Isopropyl Alcohol

24. Removal of Filler (74A110821).

- a. Use scraper to cut adhesive bond line.
- b. Remove filler by using a peeling action.
- c. After removal of fairing, clean up bond surface per substeps below:

(1) Cut off thicker sections of adhesive with a scraper.



Isopropyl Alcohol

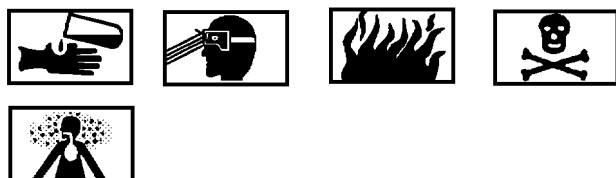
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To avoid contamination of isopropyl alcohol, always pour isopropyl alcohol onto abrasive mat. Never dip abrasive mat into isopropyl alcohol.

(2) Remove thin film of remaining adhesive with abrasive mat and isopropyl alcohol.

25. Bonding Procedure.



Isopropyl Alcohol

9



To avoid contamination of isopropyl alcohol, always pour isopropyl alcohol into clean cheesecloth. Never dip cheesecloth into isopropyl alcohol.

- a. Thoroughly clean the bond area (filler and splice plate) with clean cheesecloth moistened with isopropyl alcohol. Following each alcohol scrubbing, wipe with clean dry cheesecloth before alcohol evaporates to remove and disperse contaminants.



Cleaning Compound

30

- b. Apply a thin coat of cleaning compound to faying surfaces of the fairing and metal structures which will come in contact when the fairing is installed. Apply by wiping with cheesecloth and allow to air dry for a minimum of 1 hour at room temperature.



Sealing Compound

8

- c. Mix sealing compound to Sealant Preparation (A1-F18AC-SRM-200, WP011 00).

- d. Apply sealing compound to splice plate, covering all areas which will contact filler.

- e. Align and install filler on splice plate.

- f. Clamp filler in place on splice plate.

- g. Cure sealing compound (A1-F18AC-SRM-200, WP011 00).

26. **EMI ELECTRICAL BONDING STRIPS.** Electrical bonding strips (EMI Spring Fingers) under doors 34 and 113 damaged beyond acceptable limits shall be replaced. See figure 1.

Support Equipment Required

None

Materials Required

Specification or Part Number	Nomenclature
ST9M622-3-2400	Strip, Electrical Bonding
BRFS4T()	Rivet (as required)
MIL-S-83430	Sealing Compound
NAS1097AD3	Rivet (as required)



Be careful not to enlarge holes when drilling out rivets. Damage to structure can occur.

- a. Remove rivets attaching retainer and strips to structure.
- b. Remove retainer and damaged strip.
- c. Cut to size new strip from ST9M622-3-2400 bonding strip.
- d. Prepare surfaces for electrical bonding and sealing (A1-F18AC-LMM-000).

e. Position new EMI strip and retainer, clamp in place.

f. Punch holes in EMI strip.



Sealing Compound



8

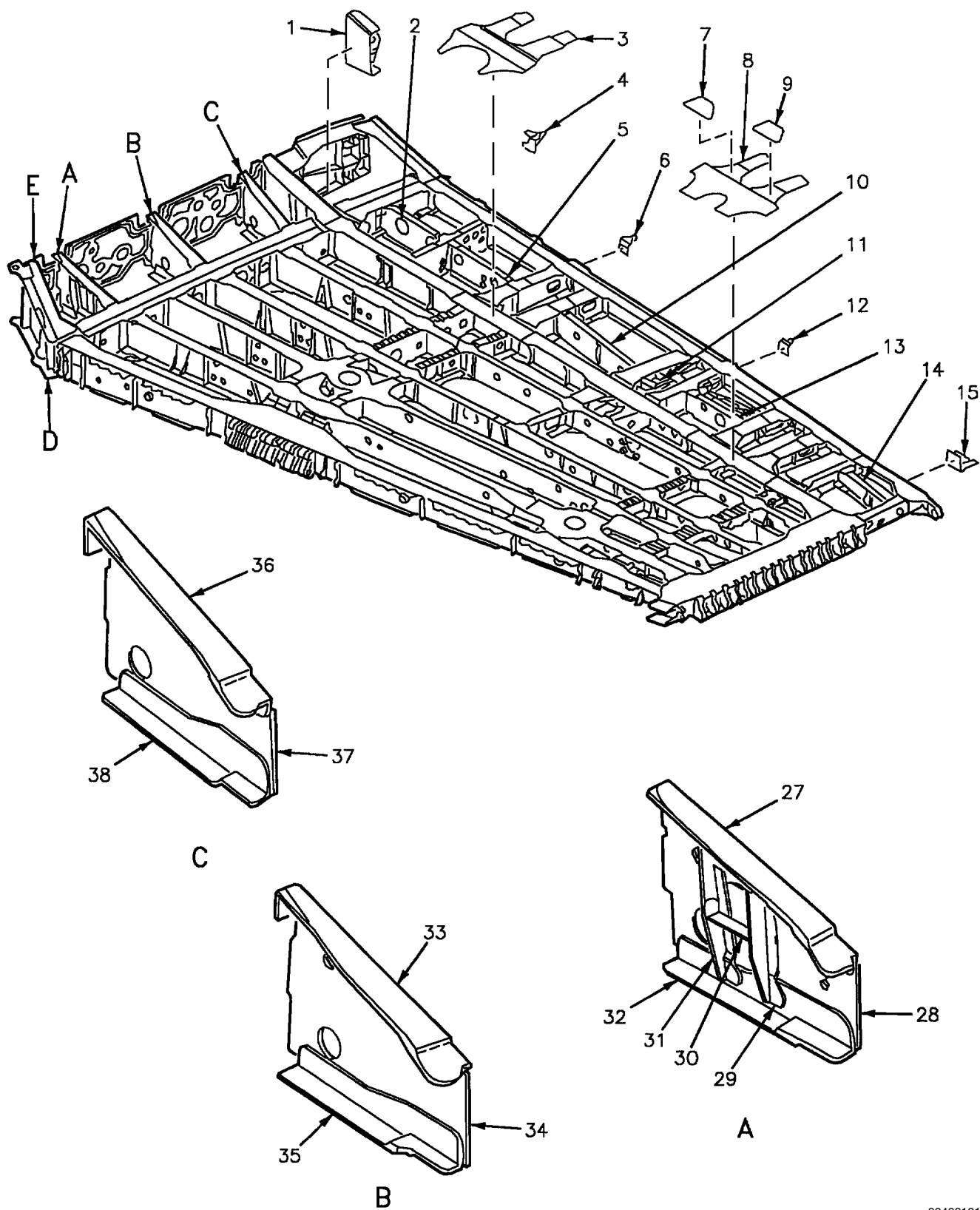
g. Install NAS1097AD3 rivet wet with sealing compound, sealant preparation and application (A1-F18AC-SRM-200, WP011 00), in outboard hole of upper bonding strip (23, figure 1). Length of rivet to be determined on installation.

h. Install BRFS4T() rivets wet with sealing compound, Sealant Preparation and Application (A1-F18AC-SRM-200, WP011 00) into remaining holes. Length of rivets to be determined on installation.

i. Fillet seal around edge of strip and retainer (A1-F18AC-SRM-200, WP011 00).

j. Verify electrical bonding strip contact, (A1-F18AC-SRM-200, WP004 25).

k. Refinish area (A1-F18AC-SRM-500, WP027 00).



00400101

Figure 1. Structure Material Index (Sheet 1)

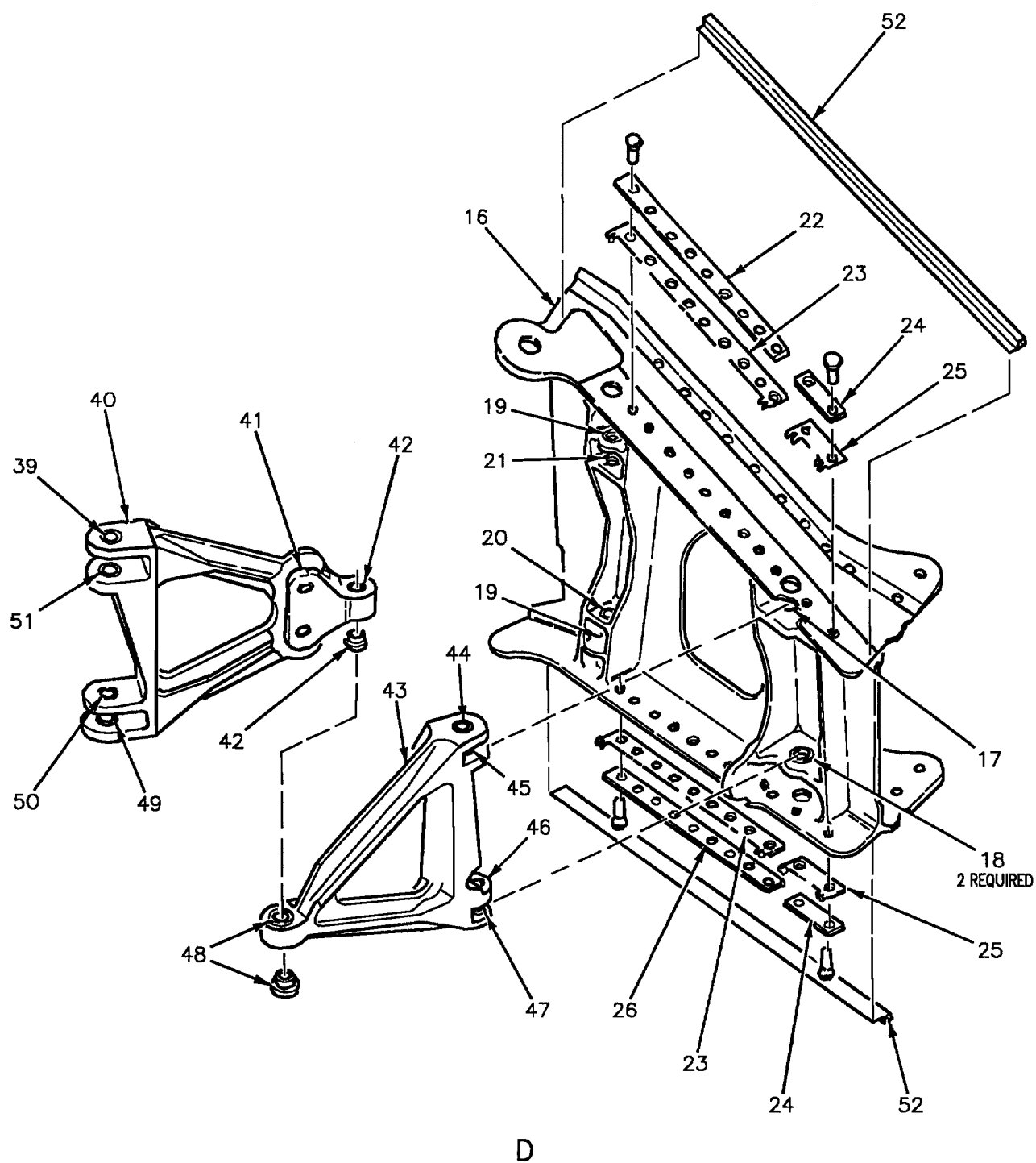
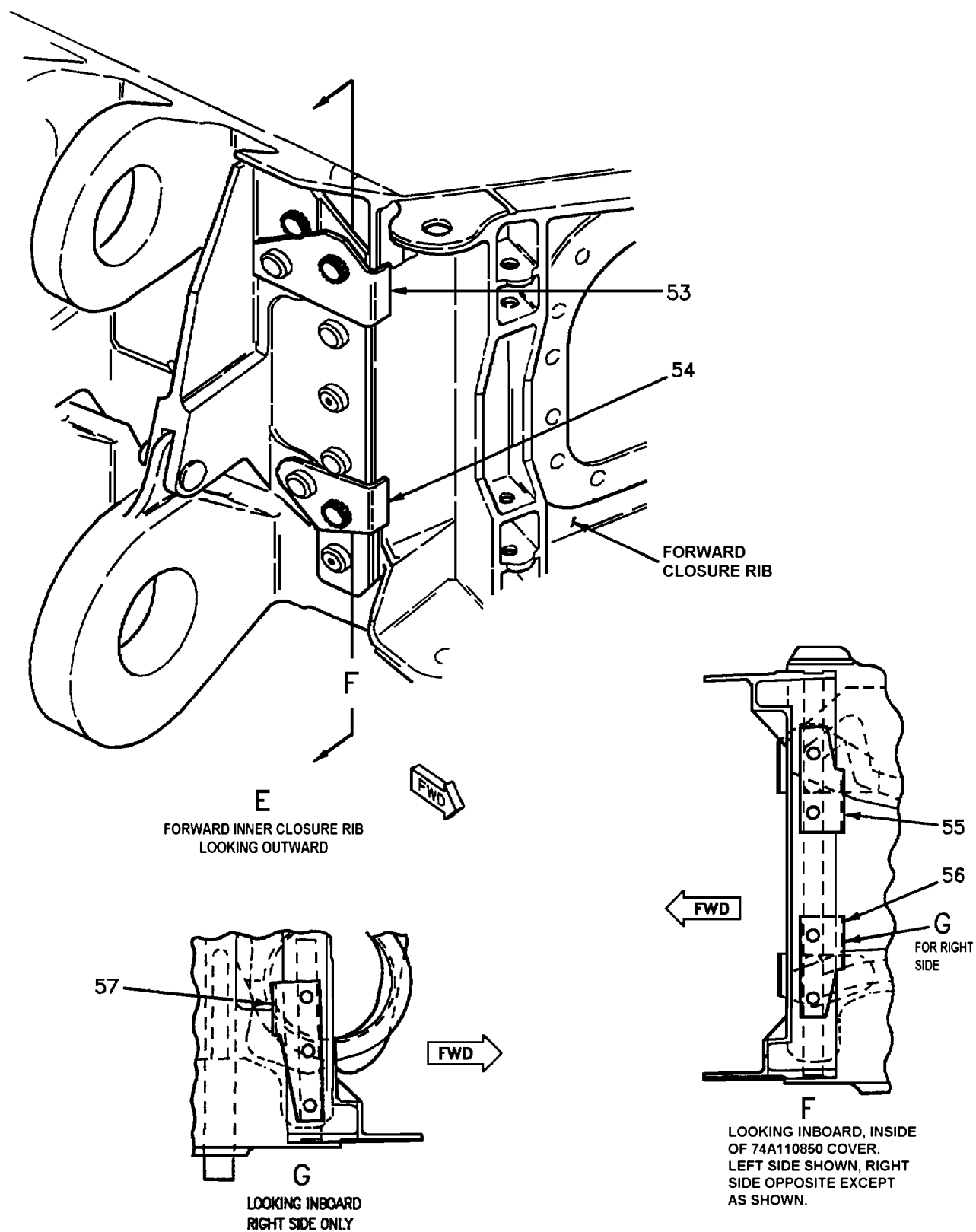


Figure 1. Structure Material Index (Sheet 2)



00400103

Figure 1. Structure Material Index (Sheet 3)

























IDX NO.	EFT	Nomenclature and Part No.	Description	Material
1	 	Support 74A110964-2003, -2004 74A110964-2005, -2006	Machining	6Al-4V Ti Anl
2		Intercostal 74A110968-2001, -2002	0.050 Sheet	7075-T6 Alclad
3		Plate 74A110819-2009, -2010	0.250 Plate	6Al-4V Ti Anl
4	 	Hinge Half 74A110630-2003, -2004 74A110988-2003, -2004	Machining	7050-T73652 Al Aly
5		Intercostal 74A110883-2007, -2008	0.050 Sheet	7075-T6 Alclad
6	   	Hinge Half 74A110705-2003 74A110705-2004 74A110989-2003 74A110989-2004	Machining	7050-T73652 Al Aly
7		Filler 74A110821-2007, -2008	0.050 Sheet	
8		Plate 74A110821-2011, -2012	0.160 Sheet	6Al-4V Ti Anl
9		Filler 74A110821-2005, -2006	0.050 Sheet	
10	  	Intercostal 74A110882-2009, -2010 74A110882-2011, -2012 74A110882-2017, -2018	0.050 Sheet	7075-T6 Al Aly
11	   	Adapter 74A110624-2007 74A110624-2008 74A110624-2009 74A110624-2010	Machining	7050-T73652 Al Aly
12	  	Hinge Half 74A110631-2003, -2004 74A110631-2005, -2006 74A110631-2007, -2008	Machining	7050-T73652 Al Aly
13	 	Intercostal 74A110881-2001, -2002 74A110881-2013, -2014	0.100 Sheet	7075-T6 Alclad
14		Intercostal 74A110861-2021, -2022	0.063 Sheet	7075-T6 Alclad
15	 	Support 74A110955-2001, -2002 74A110955-2003, -2004	3.00 Bar	6Al-4V Ti Anl
16		Rib 74A110706-2021, -2022	Machining	7050-T73652 Al Aly

Figure 1. Structure Material Index (Sheet 4)

IDX NO.	EFT	Nomenclature and Part No.	Description	Material
17		Bushing 4M43BC-009	0.75 Rod	
18		Bushing 74A110931-2001	0.75 Rod	
19		Bushing 4M43BC6-006	0.75 Rod	
20		Bushing ST4M139BC4-34	0.75 Rod	
21		Bushing 4M43BC5-006	0.75 Rod	
22		Retainer 74A110706-2013	0.025 Sheet	6Al-4V Ti Anl
23		Bonding Strip ST9M622-3-753	0.005 Sheet	
24		Retainer 74A110706-2015	0.025 Sheet	6Al-4V Ti Anl
25		Bonding Strip ST9M622-3-210	0.005 Sheet	
26		Retainer 74A110706-2017	0.025 Sheet	6Al-4V Ti Anl
27	 	Cap 74A110686-2001 74A110686-2002 74A110686-2003 74A110686-2004	Machining	7050-T73652 Al Aly
28		Web 74A110822-2009, -2010	Machining	7050-T411 Al Aly
29		Bracket 74A110926-2003, -2004	0.063 Sheet	7075-T6 Alclad
30		Bracket 74A110926-2005, -2006	0.063 Sheet	7075-T6 Alclad
31		Bracket 74A110926-2001, -2002	0.063 Sheet	7075-T6 Alclad
32		Cap 74A110786-2005, -2006	3.30 Plate	6Al-4V Ti Anl
33	 	Cap 74A110687-2003, -2004 74A110687-2005, -2006	Machining	7050-T73652 Al Aly
34		Web 74A110823-2011, -2012	Machining	7050-T73652 Al Aly
35		Cap 74A110788-2005, -2006	3.30 Plate	6Al-4V Ti Anl
36	 	Cap 74A110688-2001, -2002 74A110688-2003, -2004	Machining	7050-T73652 Al Aly

Figure 1. Structure Material Index (Sheet 5)















IDX NO.	EFT	Nomenclature and Part No.	Description	Material
37		Web 74A110824-2009, -2010	Machining	7050-T411 Al Aly
38		Cap 74A110790-2005, -2006	3.30 Plate	6Al-4V Ti Anl
39		Bushing 4M43BC7-006	0.75 Rod	
40	 	Support 74A110899-2003 74A110986-2003	1.50 Plate	7075-T7351 Al Aly
41		Adapter 74A110900-2003	1.0 Plate	7075-7651 Al Aly
42		Bushing ST4M139BC5-31	0.75 Rod	
43	 	Support 74A110622-2001 74A110990-2003	1.50 Plate	7075-T7351 Al Aly
44		Bushing 4M43BC5-006	0.75 Rod	
45		Bushing 4M43BC5-006	0.75 Rod	
46		Bushing 4M43BC7-006	0.75 Rod	
47		Bushing 4M43BC7-011	0.75 Rod	
48		Bushing ST4M139BC6-31	0.75 Rod	
49		Bushing 4M43BC7-011	0.75 Rod	
50		Bushing 4M43BC7-006	0.75 Rod	
51		Bushing 4M43BC5-006	0.75 Rod	
52		Seal 74A110000-2001	11M986-2 Extr	Rubber, Fluoro-Silicone
53		Retainer 74A110976-2023	1MA100D06-10303 Extr	7075-T76511 Al Aly
54		Retainer 74A110976-2019	1MA100D06-10303 Extr	7075-T76511 Al Aly
55		Retainer 74A110976-2021, -2022	1MA100D06-10253 Extr	7075-T76511 Al Aly
56		Retainer 74A110976-2017	1MA100D06-10253 Extr	7075-T76511 Al Aly
57		Retainer 74A110976-2033	1MA100D06-10253 Extr	7075-T76511 Al Aly

Figure 1. Structure Material Index (Sheet 6)

IDX NO.	EFT	Nomenclature and Part No.	Description	Material
LEGEND				
1			Beryllium Copper Alloy 172, Cond HT.	
2			Plastic Laminated Fiberglass.	
3			161353 thru 161528.	
4			161702 thru 162862.	
5			161353 thru 161987.	
6			162394 thru 163175.	
7			161353 thru 162477.	
8			161353 thru 161944, 161976.	
9			161945 thru 161975, 161977 and Up.	
10			161353 thru 162909.	
11			163092 and Up.	
12			161353 thru 161715.	
13			161716 thru 162477.	
14			162826 and Up.	
15			161353 thru 162901.	
16			162892 and Up.	
17			161353 thru 163108.	
18			161353 thru 163109.	
19			163109 and Up.	
20			163110 and Up.	
21			161353 thru 163126.	
22			161353 thru 162903, 163102 thru 163105.	
23			162904 thru 163101, 163106 and Up.	
24			161353 thru 163125.	
25			162863 and Up.	
26			163126 and Up.	
27			163127 and Up.	
28			163092 and Up.	
29			162902 and Up.	

Figure 1. Structure Material Index (Sheet 7)

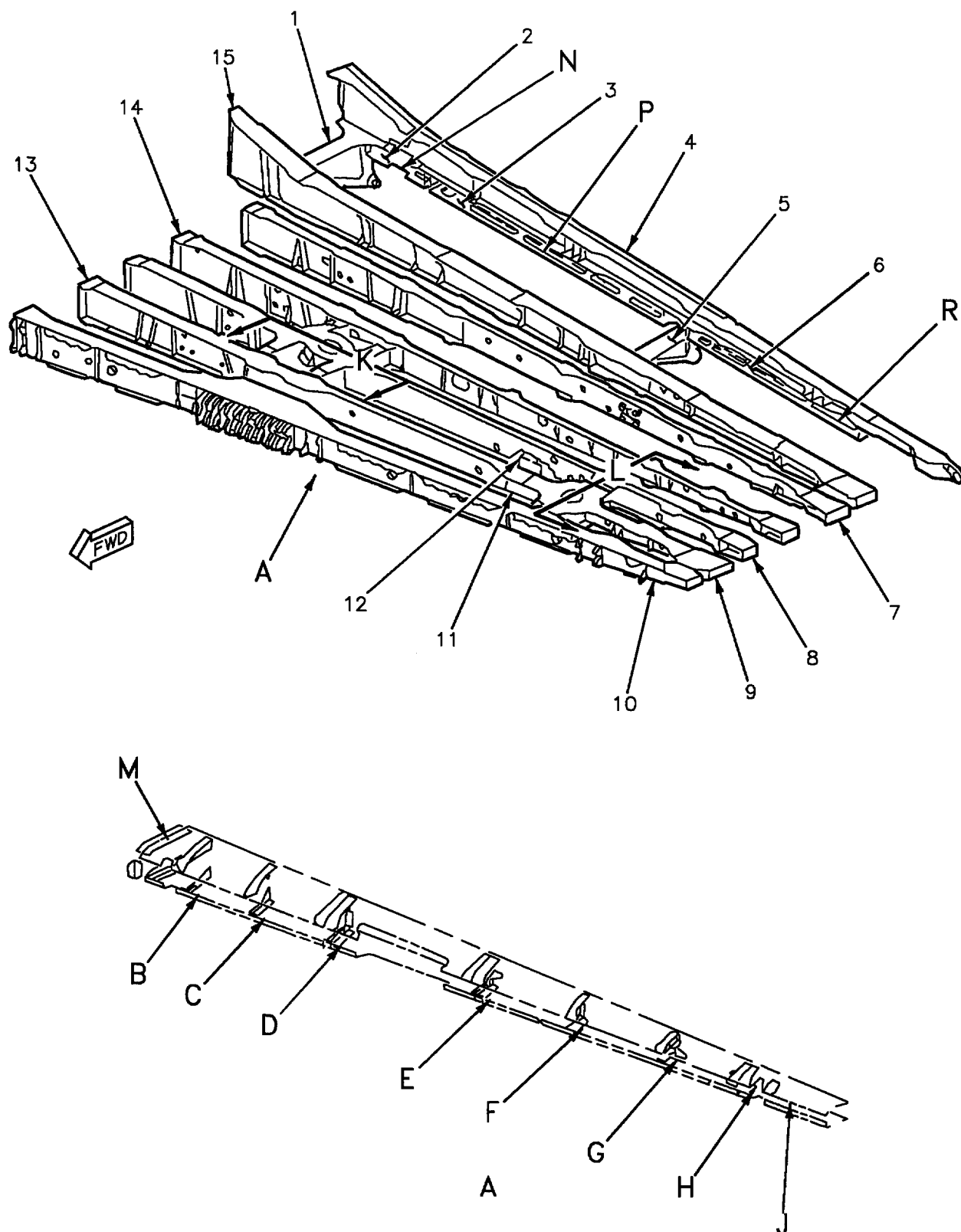


Figure 2. Spars Material Index (Sheet 1)

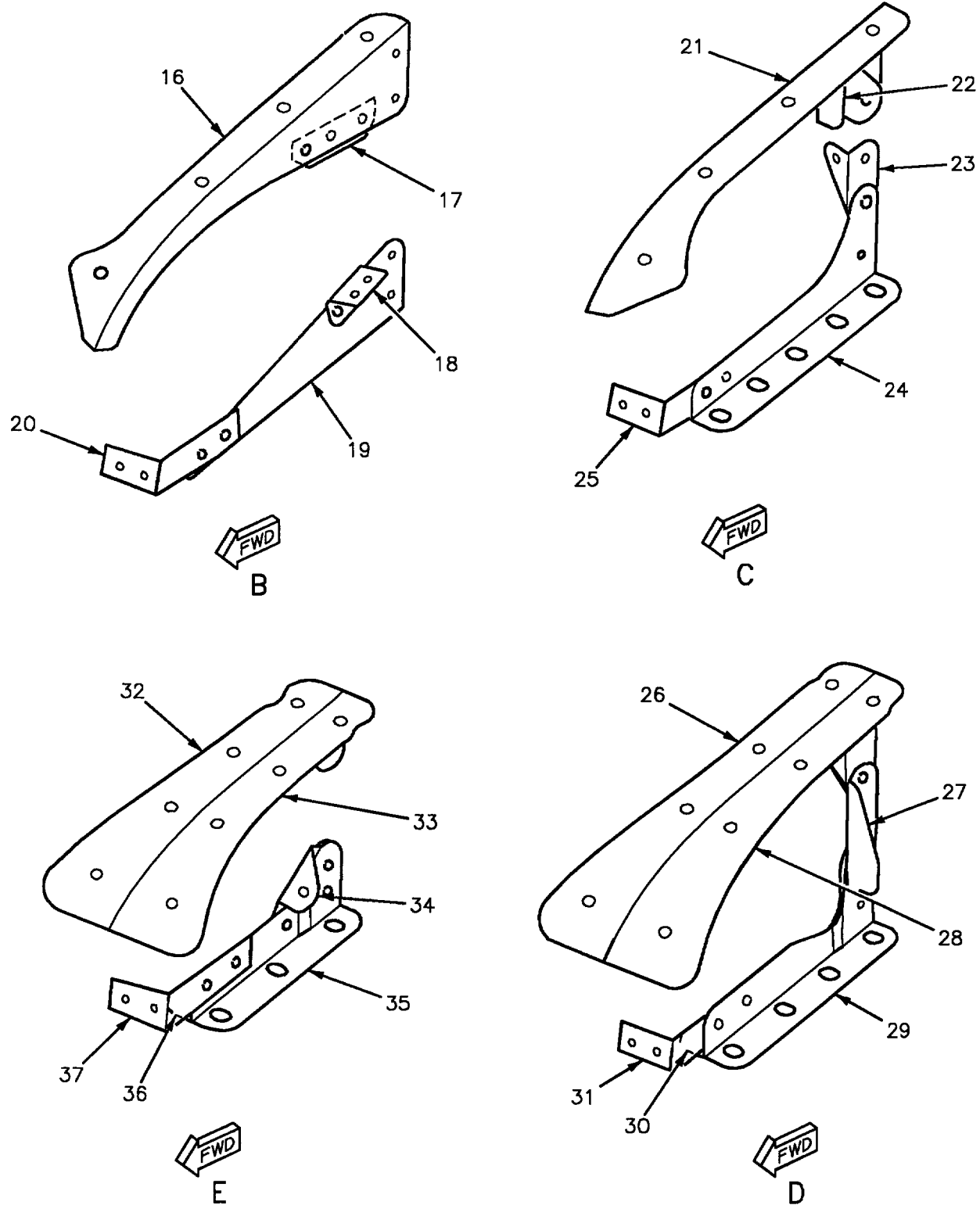


Figure 2. Spars Material Index (Sheet 2)

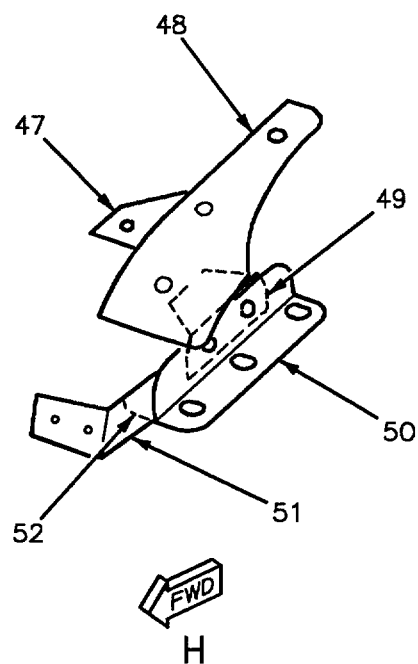
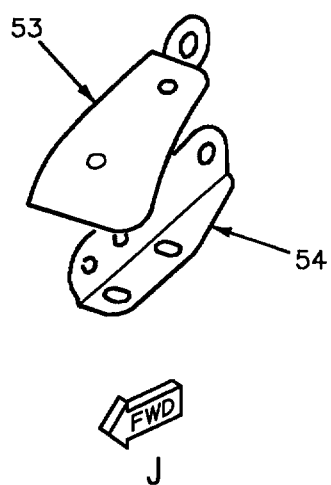
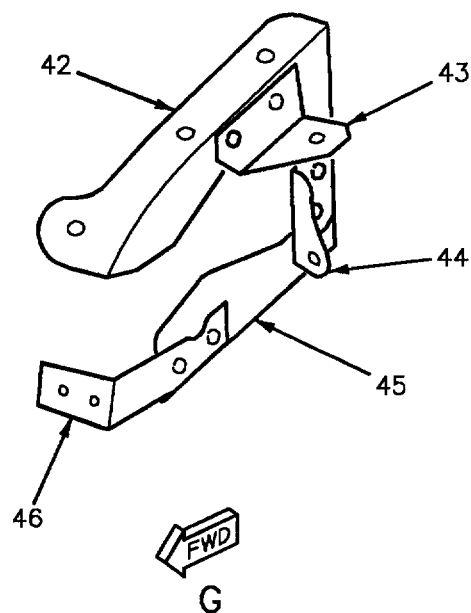
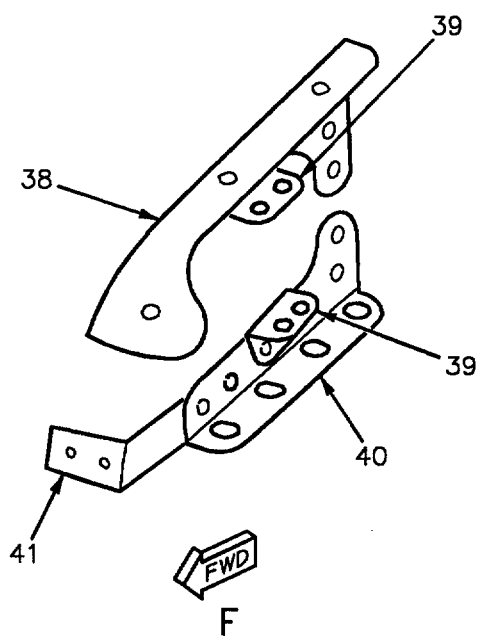


Figure 2. Spars Material Index (Sheet 3)

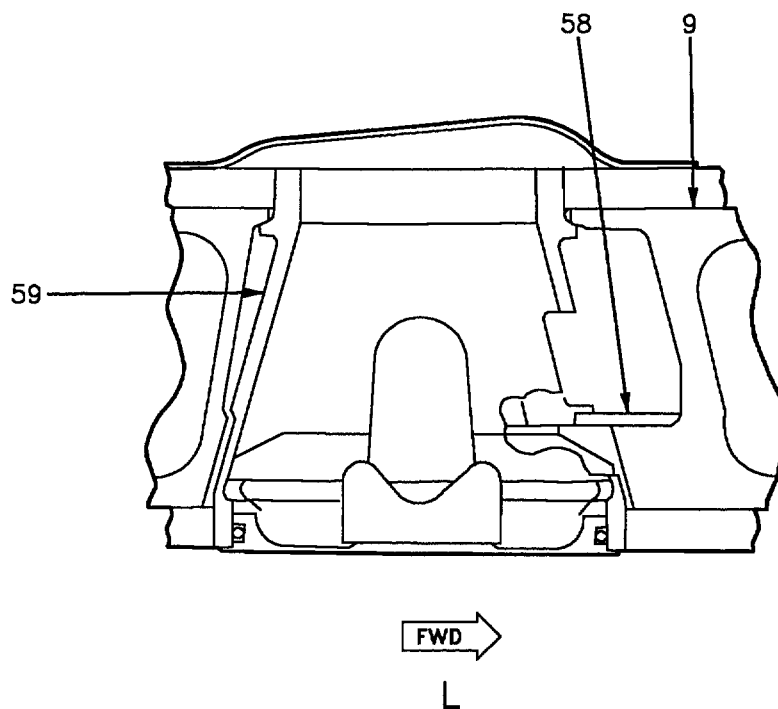
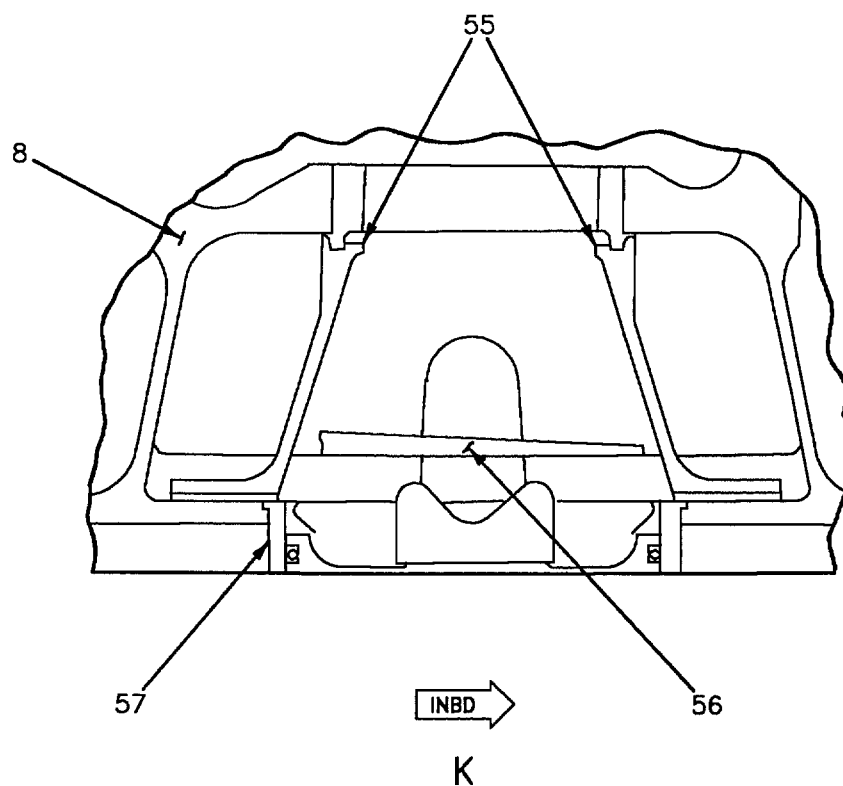


Figure 2. Spars Material Index (Sheet 4)

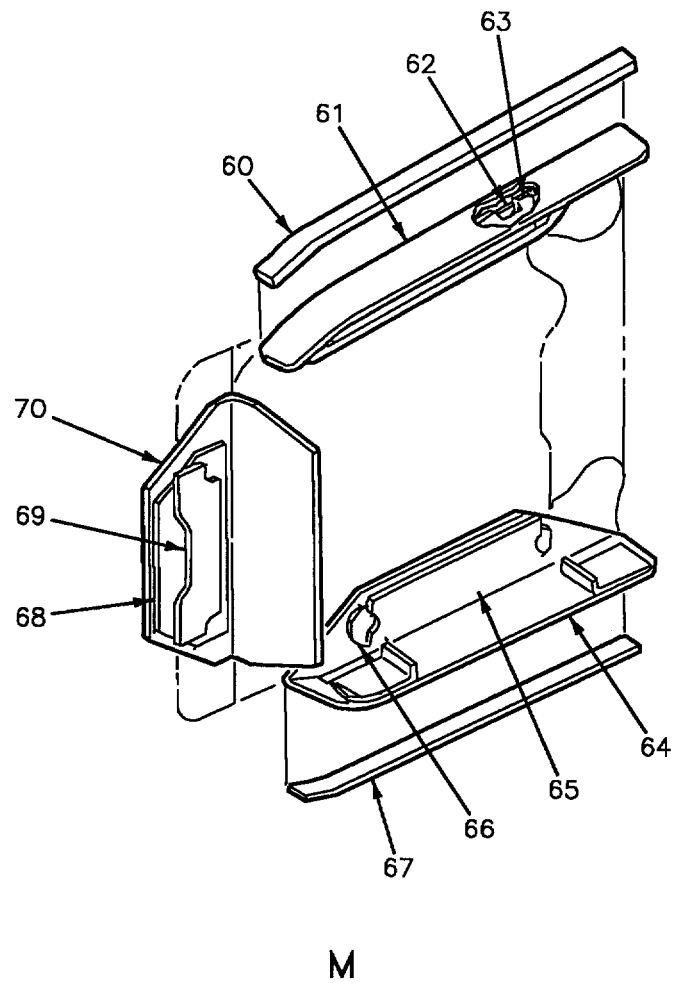


Figure 2. Spars Material Index (Sheet 5)

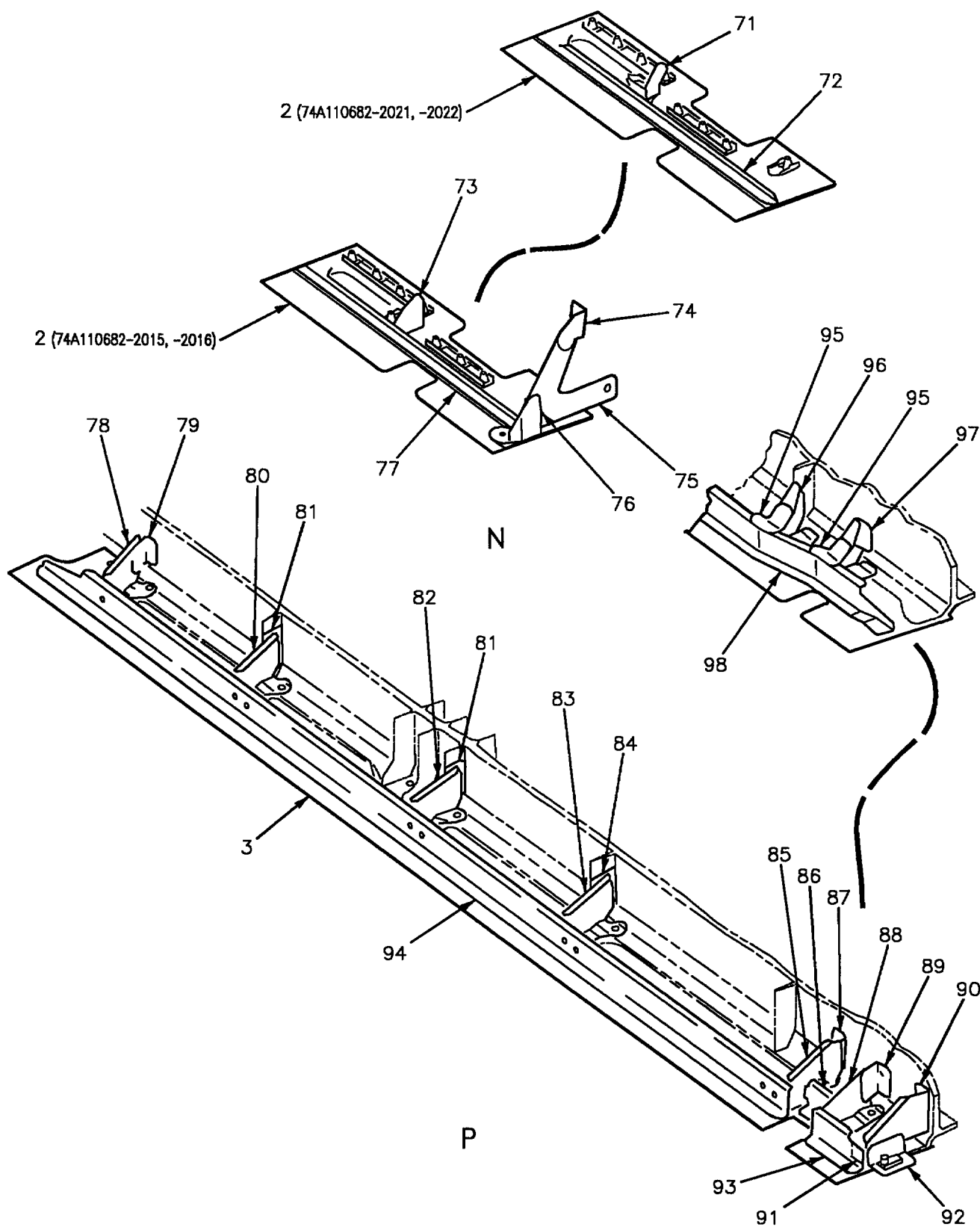


Figure 2. Spars Material Index (Sheet 6)

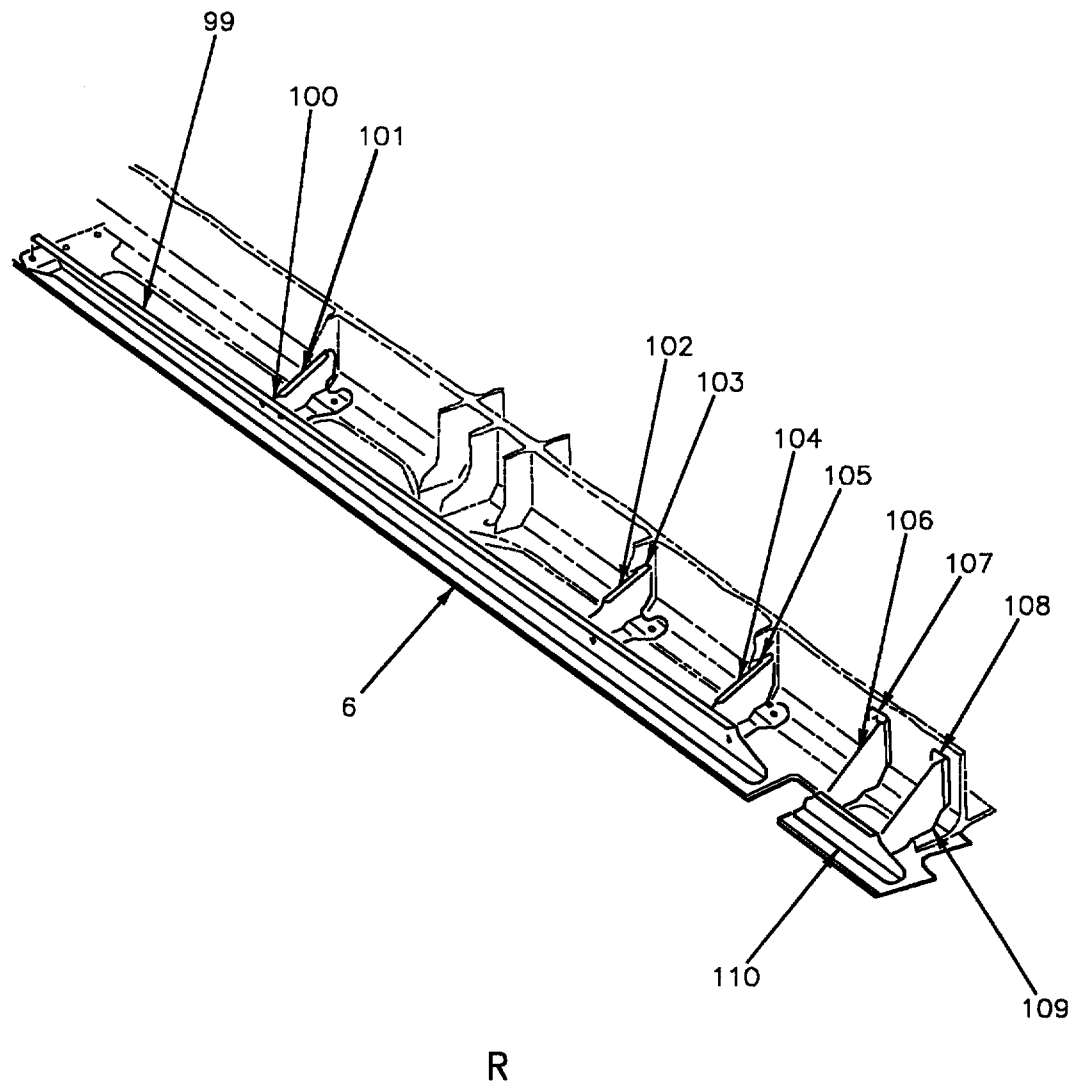


Figure 2. Spars Material Index (Sheet 7)

IDX NO.	EFT	Nomenclature and Part No.	Description	Material
1	<div>1</div> <div>2</div> <div>33</div>	Hinge Half 74A110959-2003, -2004 74A110959-2001, -2002 74A110959-2005, -2006	Machining	7050-T736 Al Aly
2	<div>9</div> <div>10</div>	Seal 74A110682-2015, -2016 74A110682-2021, -2022	0.125 Sheet	7075-T6 Alclad
3		Seal 74A110682-2017, -2018	0.063 Sheet	7075-T6 Alclad
4	<div>3</div> <div>4</div> <div>5</div>	Spar 74A110952-2001, -2002 74A110952-2005, -2006 74A110952-2003, -2004	Machining	7060-T73652 Al Aly
5	<div>17</div> <div>18</div> <div>33</div>	Hinge Half 74A110953-2001, -2002 74A110953-2003, -2004 74A110953-2005, -2006	Machining	7050-T736 Al Aly
6		Seal 74A110682-2019, -2020	0.063 Sheet	7075-T6 Alclad
7	<div>37</div> <div>34</div> <div>35</div>	Spar 74A110608-2020 74A110608-2021, -2022 74A110608-2023, -2024	Machining	7050-T73652 Al Aly
8	<div>6</div> <div>7</div> <div>8</div>	Spar 74A110606-2037, -2038 74A110606-2039, -2040 74A110606-2043, -2044	Machining	7050-T73652 Al Aly
9		Support 74A110698-2007, -2008	Machining	7050-T73652 Al Aly
10	<div>19</div> <div>20</div> <div>21</div> <div>22</div> <div>36</div>	Spar 74A110604-2029, -2030 74A110604-2035, -2036 74A110604-2037, -2038 74A110604-2039, -2040 74A110604-2041, -2042	Machining	7050-T73652 Al Aly
11		Fitting 74A110871-2001, -2002	Machining	7050-T73652 Al Aly
12		Fitting 74A110732-2001, -2002	Machining	7075-T73652 Al Aly
13	<div>39</div> <div>40</div>	Spar 74A110605-2007, -2008 74A110605-2009, -2010	Machining	7050-T73652 Al Aly
14		Spar 74A110607-2023, -2024	Machining	7050-T73652 Al Aly
15		Spar 74A110609-2021, -2022	Machining	7050-T73652 Al Aly

Figure 2. Spars Material Index (Sheet 8)









IDX NO.	EFT	Nomenclature and Part No.	Description	Material
16		Former 74A110660-2085, -2086	0.071 Sheet	7075-T6 Alclad
17		Bracket 74A110656-2083, -2084	0.050 Sheet	7075-T6 Alclad
18		Bracket ST9M580-1	0.050 Sheet	2024-T81 Alclad
19	 	Former 74A110660-2083, -2084 74A110660-2105, -2106	0.063 Sheet	7075-T6 Alclad
20	 	Clip 74A110945-2001, -2002 74A110945-2021, -2022	0.063 Sheet	7075-T6 Alclad
21		Former 74A110660-2087, -2088	0.071 Sheet	7075-T6 Alclad
22		Bracket 74A110656-2045, -2046	0.050 Sheet	7075-T6 Alclad
23 R L		Bracket 74A110656-2043 74A110656-2044	0.050 Sheet	7075-T6 Alclad
24		Former 74A110660-2069, -2070	0.080 Sheet	7075-T6 Alclad
25	 	Clip 74A110945-2003, -2004 74A110945-2023, -2024	0.063 Sheet	7075-T6 Alclad
26		Former 74A110660-2089, -2090	0.050 Sheet	7075-T6 Alclad
27		Bracket 74A110656-2049, -2050	0.050 Sheet	7075-T6 Alclad
28		Former 74A110660-2091, -2092	0.050 Sheet	7075-T6 Alclad
29		Former 74A110660-2013, -2014	0.080 Sheet	7075-T6 Alclad
30		Former 74A110660-2015, -2016	0.063 Sheet	7075-T6 Alclad
31	 	Clip 74A110945-2005, -2006 74A110945-2025, -2026	0.063 Sheet	7075-T6 Alclad
32		Former 74A110660-2093, -2094	0.050 Sheet	7075-T6 Alclad
33		Former 74A110660-2095, -2096	0.050 Sheet	7075-T6 Alclad
34		Bracket 74A110656-2067, -2068	0.050 Sheet	7075-T6 Alclad
35		Former 74A110660-2071, -2072	0.063 Sheet	7075-T6 Alclad

Figure 2. Spars Material Index (Sheet 9)













IDX NO.	EFT	Nomenclature and Part No.	Description	Material
36	 	Former 74A110660-2073, -2074 74A110660-2107, -2108	0.063 Sheet	7075-T6 Alclad
37	 	Clip 74A110945-2009, -2010 74A110945-2027, -2028	0.063 Sheet	7075-T6 Alclad
38		Former 74A110660-2097, -2098	0.071 Sheet	7075-T6 Alclad
39		Bracket ST9M580-1	0.050 Sheet	2024-T81 Alclad
40		Former 74A110660-2075, -2076	0.080 Sheet	7075-T6 Alclad
41	 	Clip 74A110945-2011, -2012 74A110945-2029, -2030	0.063 Sheet	7075-T6 Alclad
42		Former 74A110660-2099, -2100	0.071 Sheet	7075-T6 Alclad
43		Bracket 74A110656-2085, -2086	0.063 Sheet	7075-T6 Alclad
44		Bracket 74A110656-2087, -2088	0.050 Sheet	7075-T6 Alclad
45	 	Former 74A110660-2077, -2078 74A110660-2109, -2110	0.063 Sheet	7075-T6 Alclad
46	 	Clip 74A110945-2013, -2014 74A110945-2031, -2032	0.063 Sheet	7075-T6 Alclad
47		Bracket 74A110656-2089, -2090	0.063 Sheet	7075-T6 Alclad
48		Former 74A110660-2101, -2102	0.071 Sheet	7075-T6 Alclad
49		Bracket 74A110656-2093, -2094	0.063 Sheet	7075-T6 Alclad
50		Former 74A110660-2079, -2080	0.063 Sheet	7075-T6 Alclad
51	 	Clip 74A110945-2015, -2016 74A110945-2033, -2034	0.080 Sheet	7075-T6 Alclad
52		Former 74A110660-2081, -2082	0.063 Sheet	7075-T6 Alclad
53		Former 74A110660-2103, -2104	0.071 Sheet	7075-T6 Alclad
54		Former 74A110660-2039, -2040	0.063 Sheet	7075-T6 Alclad

Figure 2. Spars Material Index (Sheet 10)

IDX NO.	EFT	Nomenclature and Part No.	Description	Material
55	<div>11</div> <div>12</div> <div>23</div>	Support 74A110847-2003, -2004 74A110847-2005, -2006 74A110847-2007, -2008	Machining	7050-T73651 Al Aly
56	<div>11</div> <div>13</div> <div>14</div>	Plate 74A110848-2003, -2004 74A110848-2005, -2006 74A110848-2007, -2008	Machining	Beryllium Copper Aly 172 Cond 1/4 H 17-7 PH Cres
57		Bushing 74A110606-2025	Machining	PH13-8MD Cres
58	<div>24</div> <div>25</div>	Plate 74A110846-2001 74A110846-2003	0.125 Sheet	Beryllium Copper Aly 172 Cond 1/4 H
59		Bushing 74A110641-2005, -2006	Machining	PH13-8Mo Cres
60		Seal 74A110000-2003	0.125 Sheet	AMS3198 Sponge Rubber
61	<div>26</div> <div>27</div>	Former 74A110942-2011, -2012 74A110942-2023, -2024	0.071 Sheet	7075-T6 Alclad
62	<div>27</div>	Shield 74A110942-2027	0.005 Foil	Beryllium Copper Aly 172 Cond 1/4 H
63	<div>27</div>	Plate 74A110942-2017	0.032 Sheet	CRES Comp 301 Cond H
64	<div>26</div> <div>27</div>	Former 74A110942-2003, -2004 74A110942-2019, -2020	0.071 Sheet	7075-T6 Alclad
65	<div>27</div>	Plate 74A110942-2013	0.032 Sheet	CRES Comp 301 Cond H
66	<div>27</div>	Shield 74A110942-2025	0.005 Foil	Beryllium Copper Aly 172 Cond 1/4 H
67		Seal 74A110000-2005	0.063 Sheet	AMS3198 Sponge Rubber
68	<div>27</div>	Shield 74A110942-2029	0.005 Foil	Beryllium Copper Aly 172 Cond 1/4 H
69	<div>27</div>	Plate 74A110942-2015	0.032 Sheet	CRES Comp 301 Cond H

Figure 2. Spars Material Index (Sheet 11)



IDX NO.	EFT	Nomenclature and Part No.	Description	Material
70		Former 74A110942-2005 74A110942-2021	0.050 Sheet	7075-T6 Alclad
71		Clip 74A110683-2151, -2152	0.063 Sheet	7075-T6 Alclad
72		Stiffener 74A110683-2149, -2150	1MA160D05-10180 Extr	7075-T73511 Al Aly
73		Clip 74A110683-2077, -2078	0.063 Sheet	7075-T6 Alclad
74		Angle 74A110683-2107, -2108	1MA100D06-10086 Extr	7075-T76511 Al Aly
75		Strut 74A110683-2105, -2106	0.100 Sheet	7075-T76 Alclad
76		Angle 74A110683-2109, -2110	1MA100D06-10110 Extr	7075-T76511 Al Aly
77		Stiffener 74A110683-2103, -2104	0.063 Sheet	7075-T6 Alclad
78		Clip 74A110683-2057, -2058	0.050 Sheet	7075-T6 Alclad
79		Clip 74A110683-2139, -2140	0.050 Sheet	7075-T6 Alclad
80		Clip 74A110683-2059, -2060	0.050 Sheet	7075-T6 Alclad
81		Shim 74A110683-2129	0.032 Sheet	5052-H39 Al Lam
82		Clip 74A110683-2061, -2062	0.050 Sheet	7075-T6 Alclad
83		Clip 74A110683-2067, -2068	0.050 Sheet	7075-T6 Alclad
84		Shim 74A110683-2127	0.032 Sheet	5052-H39 Al Lam
85		Clip 74A110683-2115, -2116	0.063 Sheet	7075-T6 Alclad
86		Clip 74A110683-2121, -2122	0.040 Sheet	7075-T6 Alclad
87		Clip 74A110683-2145, -2146	0.063 Sheet	7075-T6 Alclad
88		Clip 74A110683-2117, -2118	0.050 Sheet	7075-T6 Alclad
89		Clip 74A110683-2131, -2132	0.050 Sheet	7075-T6 Alclad
90		Clip 74A110683-2073, -2074 74A110683-2155, -2156	0.063 Sheet	7075-T6 Alclad

Figure 2. Spars Material Index (Sheet 12)





















IDX NO.	EFT	Nomenclature and Part No.	Description	Material
91	 	Clip 74A110683-2125 74A110683-2157	0.050 Sheet	7075-T6 Alclad
92	 	Tee 74A110683-2071, -2072 74A110683-2153, -2154	1MA160D06-10451 Extr 1MA162D01-10030 Extr	7075-T76511 Al Aly 7075-T76 Al Aly
93		Zee 74A110683-2123, -2124	0.040 Sheet	7075-T6 Alclad
94		Zee 74A110683-2119, -2120	0.040 Sheet	7075-T6 Alclad
95		Clip 74A110683-2091, -2092	0.050 Sheet	7075-T6 Alclad
96		Clip 74A110683-2069, -2070	0.050 Sheet	7075-T6 Alclad
97		Clip 74A110683-2089, -2090	0.050 Sheet	7075-T6 Alclad
98		Zee 74A110683-2063, -2064	0.040 Sheet	7075-T6 Alclad
99		Channel 74A110683-2065, -2066	0.040 Sheet	7075-T6 Alclad
100		Clip 74A110683-2047, -2048	1MA160D06-10232 Extr	7075-T76511 Al Aly
101		Clip 74A110683-2085, -2086	0.050 Sheet	7075-T6 Alclad
102	 	Clip 74A110683-2051, -2052 74A110683-2113, -2114	0.050 Sheet	7075-T6 Alclad
103		Shim 74A110683-2135	0.032 Sheet	5052-H39 Al Lam
104		Clip 74A110683-2053, -2054	0.050 Sheet	7075-T6 Alclad
105		Shim 74A110683-2133	0.032 Sheet	5052-H39 Al Lam
106	 	Clip 74A110683-2055, -2056 74A110683-2097, -2098	0.050 Sheet	7075-T6 Alclad
107		Clip 74A110683-2143, -2144	0.050 Sheet	7075-T6 Alclad
108		Clip 74A110683-2141, -2142	0.050 Sheet	7075-T6 Alclad
109	 	Clip 74A110683-2049, -2050 74A110683-2095, -2096	0.050 Sheet	7075-T6 Alclad

Figure 2. Spars Material Index (Sheet 13)

IDX NO.	EFT	Nomenclature and Part No.	Description	Material
110	<div><div>29</div><div>5</div></div>	Channel 74A110683-2087, -2088 74A110683-2099, -2100	0.040 Sheet	7075-T6 Alclad
LEGEND				
<div><div>1</div>161353 only.</div> <div><div>2</div>161354 thru 162909.</div> <div><div>3</div>161353 thru 161358.</div> <div><div>4</div>161359 thru 161528.</div> <div><div>5</div>161702 and Up.</div> <div><div>6</div>161353 thru 161361.</div> <div><div>7</div>-2039; 161362 thru 161715. -2040; 161362 thru 161719, 161721, 161760 and 161761.</div> <div><div>8</div>-2043; 161716 and Up. -2044; 161720, 161722 thru 161759, 161924 and Up.</div> <div><div>9</div>161353 thru 161708.</div> <div><div>10</div>161709 and Up.</div> <div><div>11</div>161353 thru 161359.</div> <div><div>12</div>-2005; 161361 thru 161761 -2006; 161361 thru 161760.</div> <div><div>13</div>161361 thru 161965.</div> <div><div>14</div>161966 and Up.</div> <div><div>15</div>161353 thru 161519 before F18 AFC 27.</div> <div><div>16</div>161520 and Up; 161353 thru 161519 after F18 AFC 27.</div> <div><div>17</div>161353 thru 161761.</div> <div><div>18</div>161925 thru 162909.</div> <div><div>19</div>-2029; 161353 thru 161367. -2030; 161353 thru 161519.</div> <div><div>20</div>-2035; 161519 thru 161723, 161730 thru 161733, 161735, 161739 thru 161743, 161753. -2036; 161520 thru 161731, 161735, 161736, 161738, 161741, 161749, 161759, 161952.</div> <div><div>21</div>-2037; 161724 thru 161729, 161734, 161736 thru 161738, 161744 thru 161752, 161754 thru 162424, 162426. -2038; 161732 thru 161734, 161737, 161739, 161742 thru 161748, 161750 thru 161758, 161760 thru 161951, 161953 thru 162421, 162426.</div> <div><div>22</div>-2039; 162425, 162428- 162476, 162826. -2040; 162422 thru 162425, 162428 thru 162477.</div> <div><div>23</div>-2007; 161925 and Up -2008; 161761 and Up.</div> <div><div>24</div>161353 thru 162444.</div> <div><div>25</div>161445 and Up.</div> <div><div>26</div>161353 thru 161944.</div> <div><div>27</div>161945 and Up.</div> <div><div>28</div>161716 and Up.</div>				

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Figure 2. Spars Material Index (Sheet 14)

IDX NO.	EFT	Nomenclature and Part No.	Description	Material
29		161353 thru 161528.		
30		161353 thru 161715.		
31		161353 thru 161525.		
32		161526 and Up.		
33		163092 and Up.		
34		-2021; 161353 thru 162477, 162829.		
		-2022; 161353 thru 161709, 161712 thru 162477.		
35		-2023; 162826 thru 162828, 162830 and Up.		
		-2024; 162826 and Up.		
36		-2041; 162477, 162827 and Up.		
		-2042; 162826 and Up.		
37		161710 only.		
38		161702 thru 161708.		
39		161353 thru 163118.		
40		163119 and Up.		

Figure 2. Spars Material Index (Sheet 15)

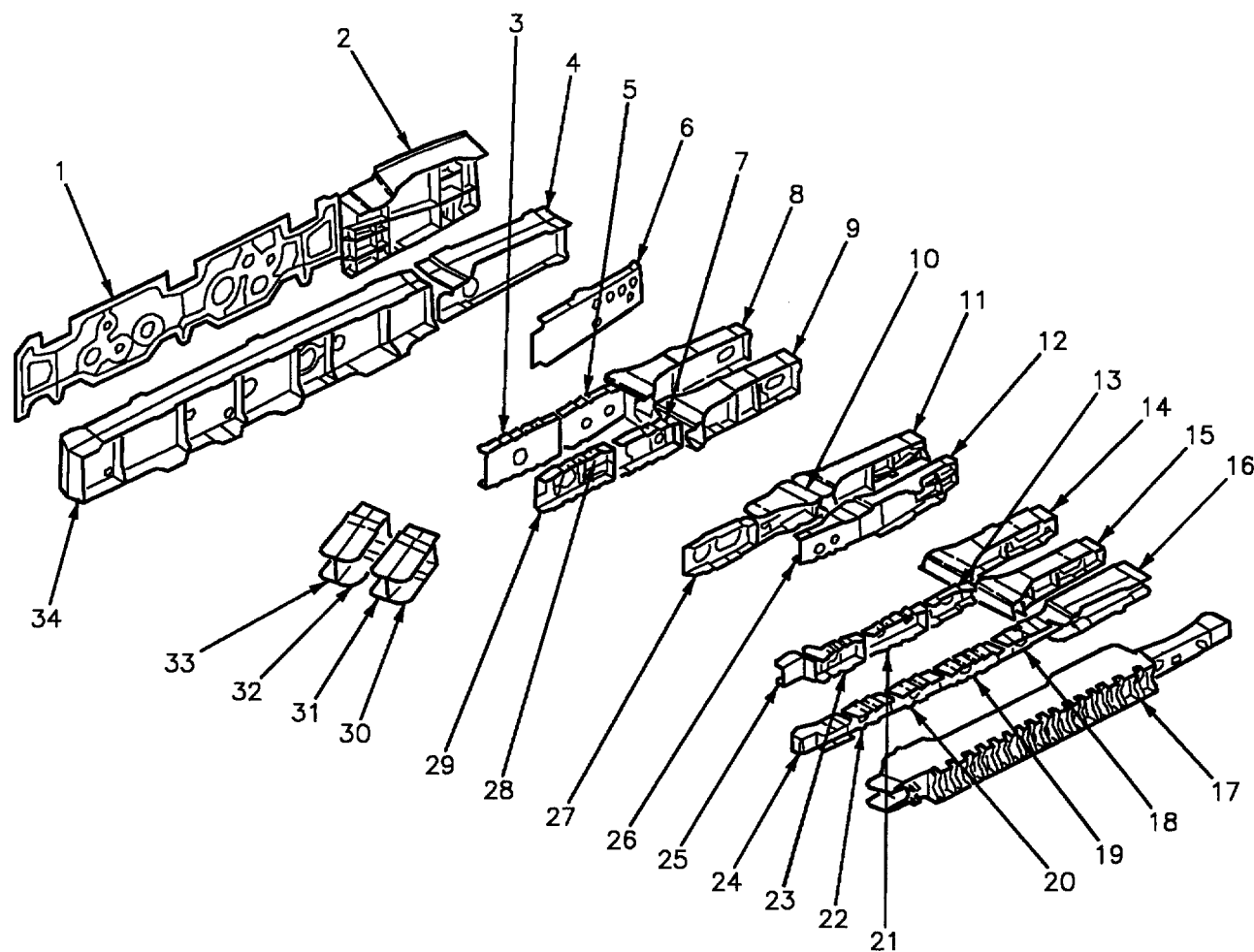


Figure 3. Ribs Material Index (Sheet 1)

IDX NO.	EFT	Nomenclature and Part No.	Description	Material
1	<div>1</div> <div>2</div> <div>3</div>	Rib 74A110664-2011, -2012 74A110664-2013, -2014 74A110664-2015, -2016	Machining	7050-T73652 Al Aly
2	<div>4</div> <div>5</div> <div>6</div>	Rib 74A110781-2019, -2020 74A110781-2021, -2022 74A110781-2023, -2024	Machining	7050-T73652 Al Aly
3	<div>23</div> <div>24</div> <div>25</div> <div>26</div>	Rib 74A110745-2009 74A110745-2010 74A110745-2011 74A110745-2012	Machining	7050-T73652 Al Aly
4	<div>7</div> <div>8</div>	Rib 74A110963-2001, -2002 74A110963-2003, -2004	Machining	7050-T73652 Al Aly
5		Rib 74A110694-2003, -2004	Machining	7050-T73652 Al Aly
6		Rib 74A110748-2011, -2012	0.063 Sheet	7075-T6 Alclad
7		Rib 74A110616-2007, -2008	Machining	7050-T73652 Al Aly
8		Rib 74A110746-2011, -2012	Machining	7050-T411 Al Aly
9		Rib 74A110649-2011, -2012	Machining	7050-T73652 Al Aly
10		Rib 74A110700-2009, -2010	Machining	7050-T73652 Al Aly
11		Rib 74A110619-2011, -2012	Machining	7050-T73652 Al Aly
12	<div>9</div> <div>10</div> <div>11</div>	Rib 74A110701-2007, -2008 74A110701-2009, -2010 74A110701-2011, -2012	Machining	7050-T73652 Al Aly
13		Rib 74A110703-2003, -2004	3.70 Plate	7050-T73651 Al Aly
14	<div>19</div> <div>20</div>	Rib 74A110621-2009, -2010 74A110621-2013, -2014	Machining	7050-T73652 Al Aly
15	<div>21</div> <div>22</div>	Rib 74A110704-2009, -2010 74A110704-2011, -2012	Machining	7050-T73652 Al Aly
16		Rib 74A110962-2001, -2002	3.75 Plate	7050-T73652 Al Aly
17		Rib 74A110611-2013, -2014	Machining	6Al-4V Ti Aly

Figure 3. Ribs Material Index (Sheet 2)








IDX NO.	EFT	Nomenclature and Part No.	Description	Material
18		Rib 74A110802-2001	Machining	7050-T73652 Al Aly
19		Rib 74A110752-2005, -2006	3.40 Plate	7050-T73652 Al Aly
20		Rib 74A110751-2003, -2004	3.50 Plate	7050-T73652 Al Aly
21		Rib 74A110747-2001, -2002	3.50 Plate	7050-T73651 Al Aly
22		Rib 74A110750-2003, -2004	2.50 Plate	7050-T73651 Al Aly
23		Rib 74A110702-2003, -2004	4.00 Plate	7050-T73651 Al Aly
24	 	Rib 74A110749-2011, -2012 74A110749-2013, -2014	Machining	7050-T73652 Al Aly
25	 	Plate 74A110826-2001, -2002 74A110826-2003, -2004	3.00 Plate	7050-T73651 Al Aly
26		Rib 74A110620-2003, -2004	4.00 Plate	7050-T73651 Al Aly
27		Rib 74A110618-2007, -2008	Machining	7050-T73652 Al Aly
28		Rib 74A110852-2001, -2002	1.75 Plate	7050-T73651 Al Aly
29		Rib 74A110853-2003, -2004	1.75 Plate	7050-T73651 Al Aly
30		Rib 74A110805-2007, -2008	Machining	7050-T73652 Al Aly
31		Rib 74A110626-2007, -2008	Machining	7050-T73652 Al Aly
32		Rib 74A110804-2007, -2008	Machining	7050-T73652 Al Aly
33		Rib 74A110696-2007, -2008	Machining	7050-T73652 Al Aly
34	  	Rib 74A110614-2013, -2014 74A110614-2015, -2016 74A110614-2017, -2018	Machining	7050-T73652 Al Aly

Figure 3. Ribs Material Index (Sheet 3)

IDX NO.	EFT	Nomenclature and Part No.	Description	Material
LEGEND				
1		161353 thru 161736.		
2		161737 thru 161954.		
3		161955 and Up.		
4		161353 thru 161528.		
5		161933 and Up.		
6		161702 thru 161932.		
7		161353 thru 161761.		
8		161924 and Up.		
9		-2007; 161353 thru 161964. -2008; 161353 thru 161965, 162397.		
10		-2009; 161965 thru 161982, 161984 thru 161987. -2010; 161966 thru 161987.		
11		-2011; 161983, 162394 and up. -2012; 162394 thru 162396, 162398 and Up.		
12		-2011; 161353 thru 161705. -2012; 161353 thru 161704.		
13		-2013; 161706 and Up. -2014; 161705 and Up.		
14		161353 thru 161710.		
15		161712 and Up.		
16		161353 thru 161359.		
17		-2015; 161360 thru 162459, 162838 and Up. -2016; 161360 thru 162453, 162834 and Up.		
18		-2017; 162460 thru 162837 -2018; 162454 thru 162833.		
19		-2009; 161353 thru 162906 -2010; 161353 thru 162907		
20		-2013; 162907 and Up -2014; 162908 and Up		
21		-2009; 161353 thru 162907 -2010; 161353 thru 162909		
22		-2011; 162908 and Up -2012; 163092 and Up		
23		161353 thru 162899.		
24		161353 thru 162900.		
25		162900 and Up.		
26		162901 and Up.		

Figure 3. Ribs Material Index (Sheet 4)

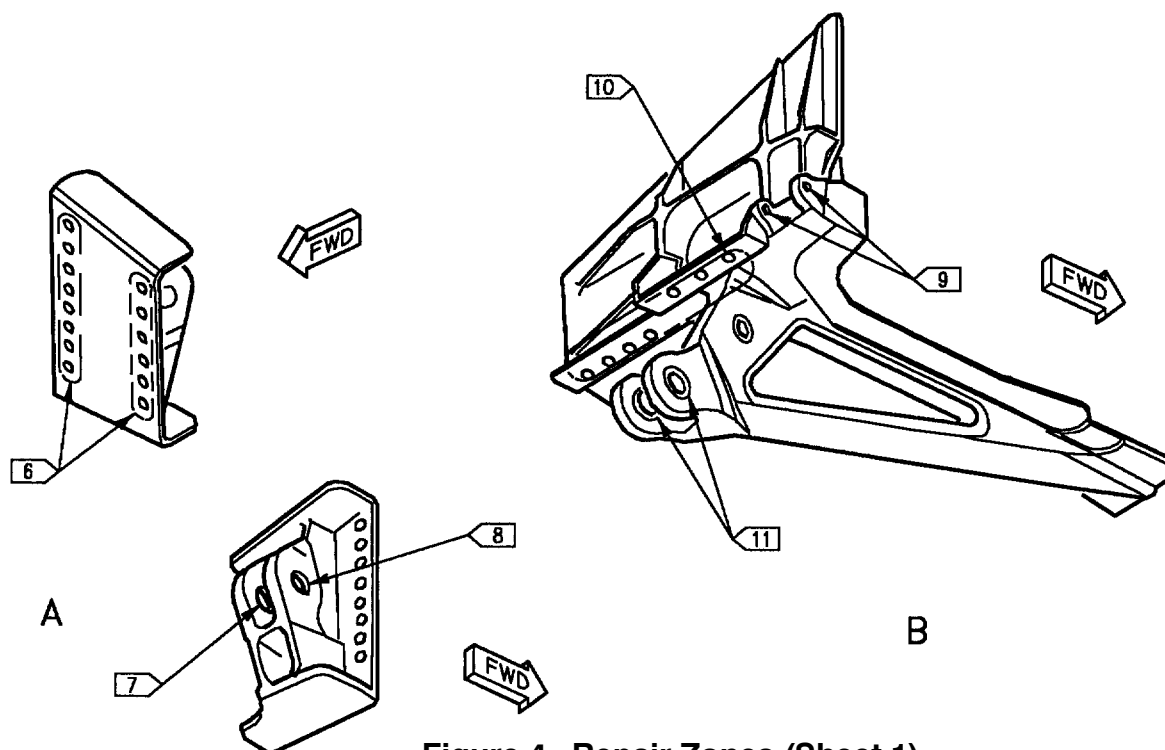
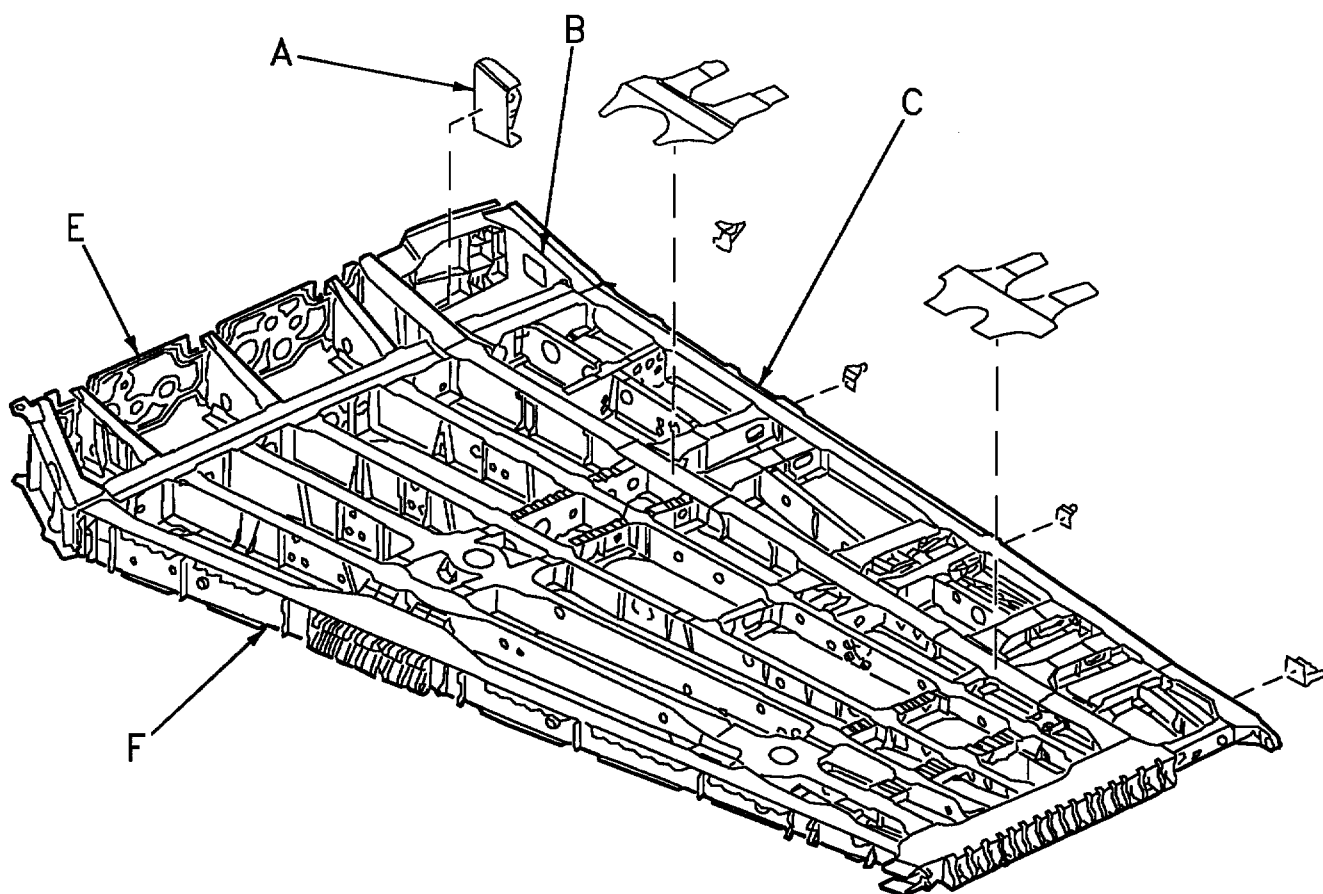


Figure 4. Repair Zones (Sheet 1)

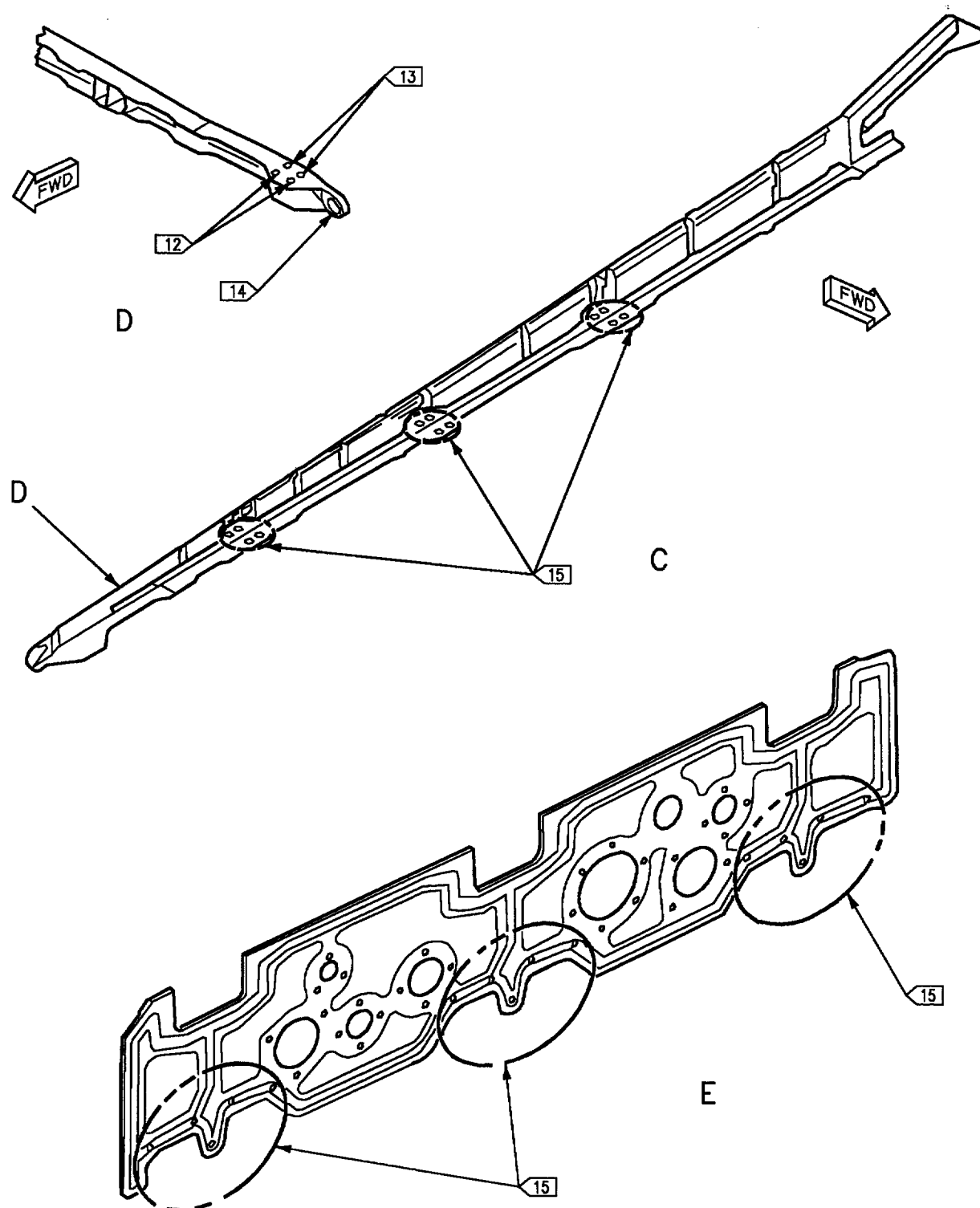
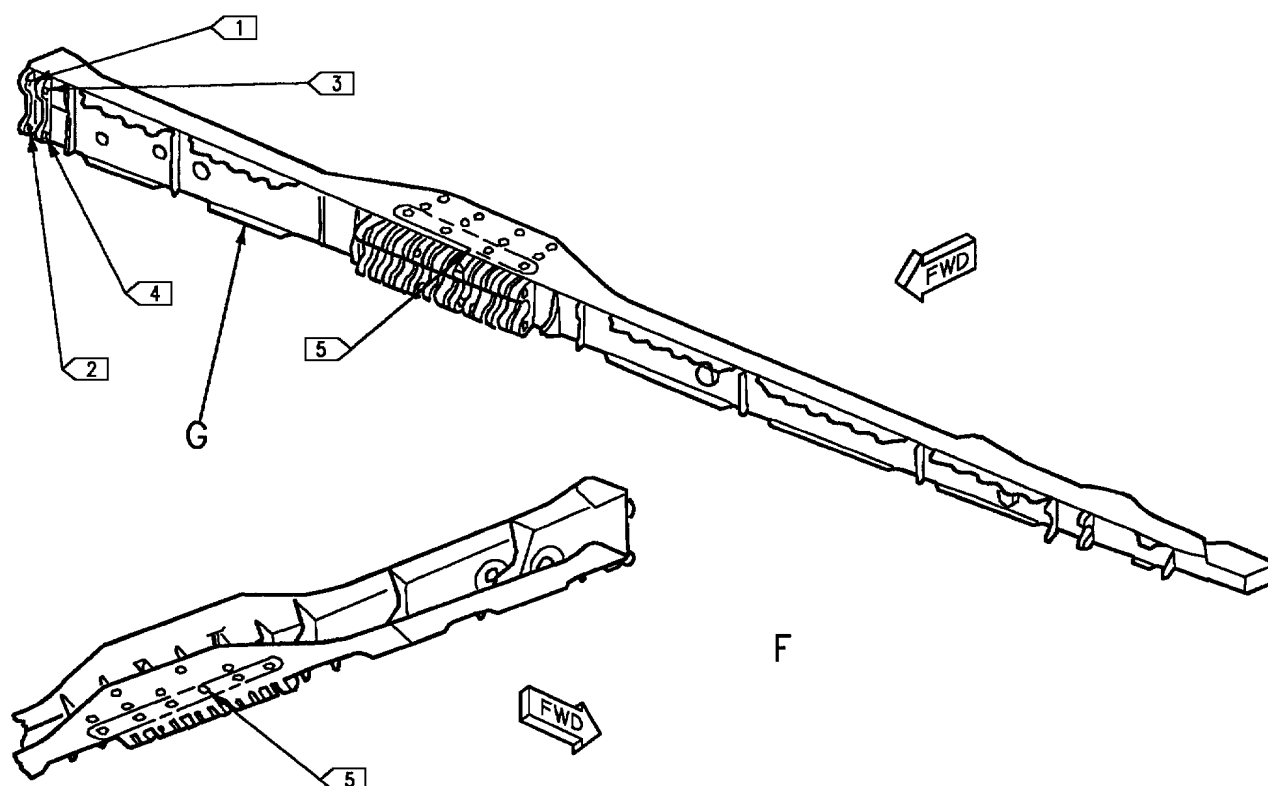


Figure 4. Repair Zones (Sheet 2)



G

LEGEND

INDEX	EFT	TYPE OF COLD WORKED HOLES	HOLE DIAMETER
1	16		0.8125 +0.0005 -0.0005
	17		0.7495 +0.0020 -0.0000
2	16		0.6875 +0.0005 -0.0005
	17		0.6870 +0.0020 -0.0000
3	16		0.6250 +0.0005 -0.0005
	17		0.6245 +0.0020 -0.0000
4	16		0.5626 +0.0005 -0.0005
	17		0.5621 +0.0020 -0.0000
5			0.4375 +0.0030 -0.0000
6			0.2495 +0.0025 -0.0000
7			1.8750 +0.0010 -0.0005
8			0.9995 +0.0005 -0.0000
9			0.4374 +0.0005 -0.0000
10			0.2500 +0.0060 -0.0000
11			1.1875 +0.0010 -0.0005
12			0.3125 +0.0030 -0.0000
13			0.3750 +0.0030 -0.0000
14			1.3766 +0.0010 -0.0005
15			0.3120 +0.0020 -0.0000
16	161353 THRU 161720		
17	161721 AND UP		

Figure 4. Repair Zones (Sheet 3)

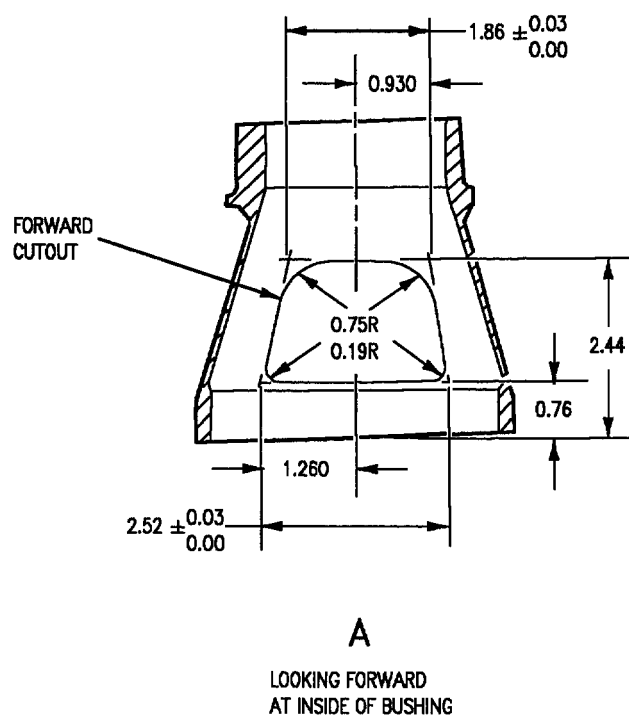
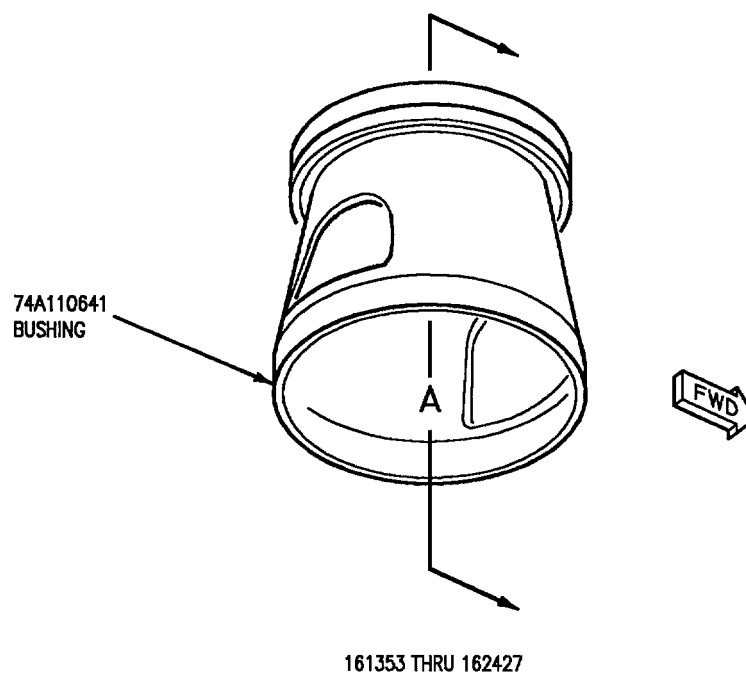
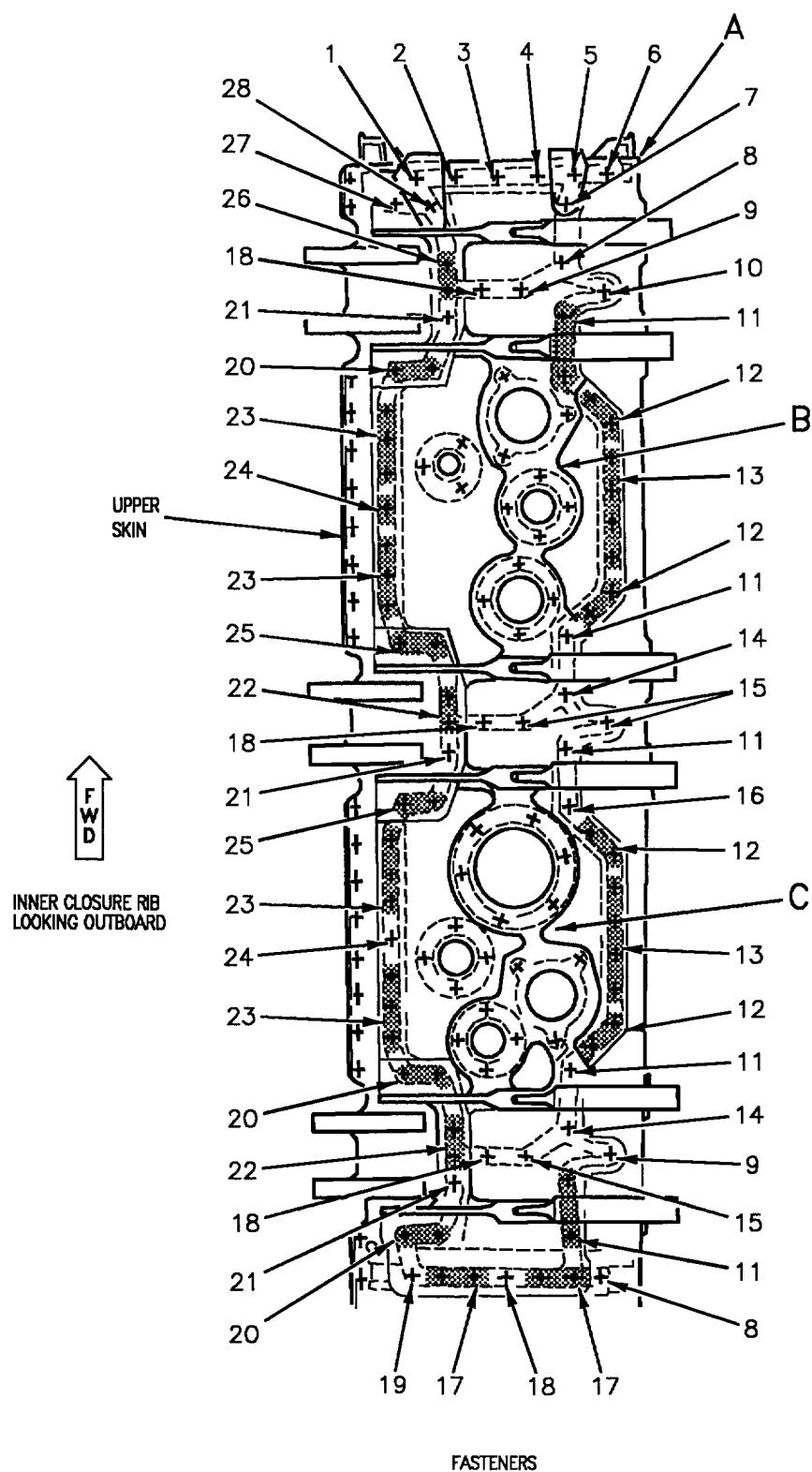
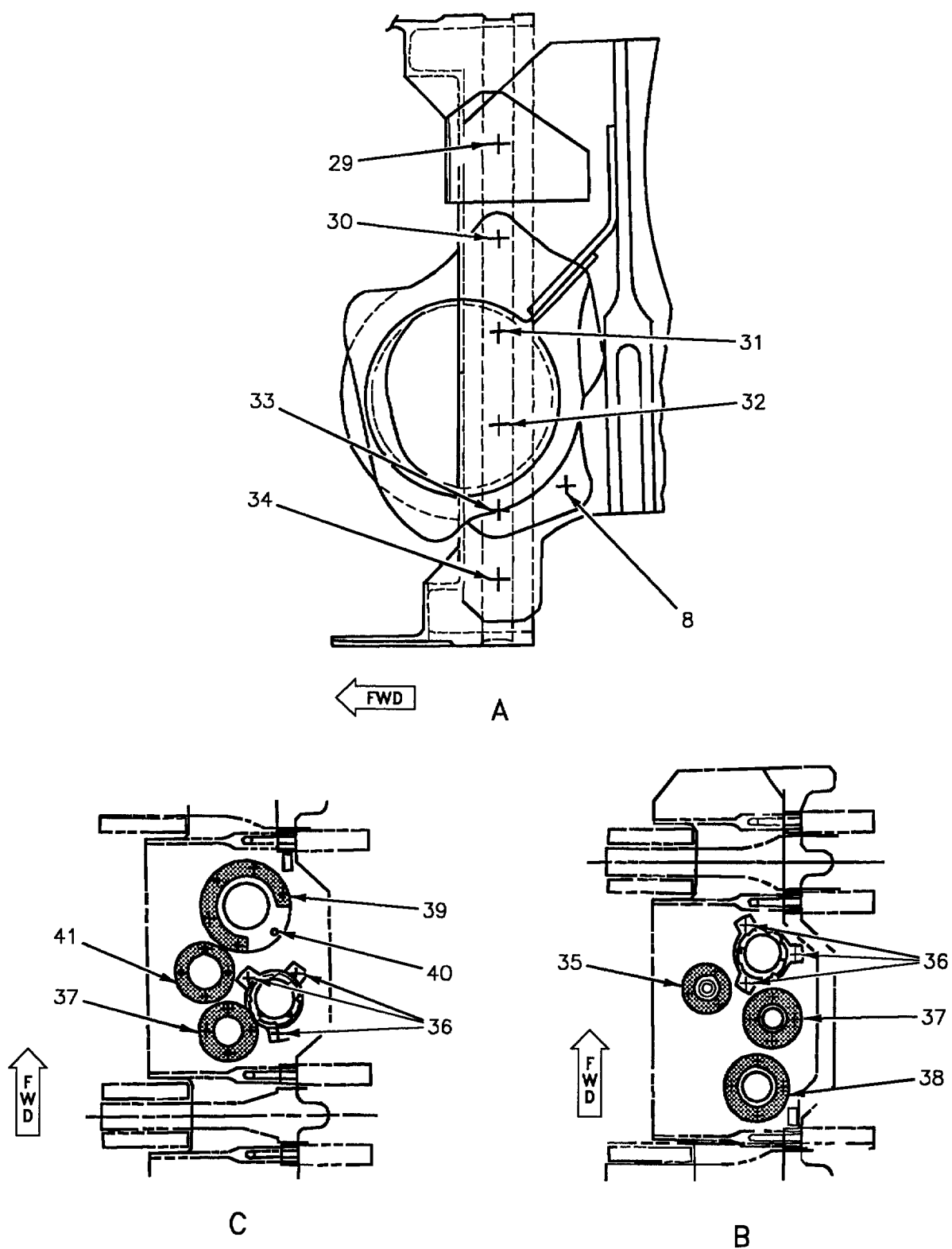


Figure 5. Outboard Pylon Post Bushing Repair



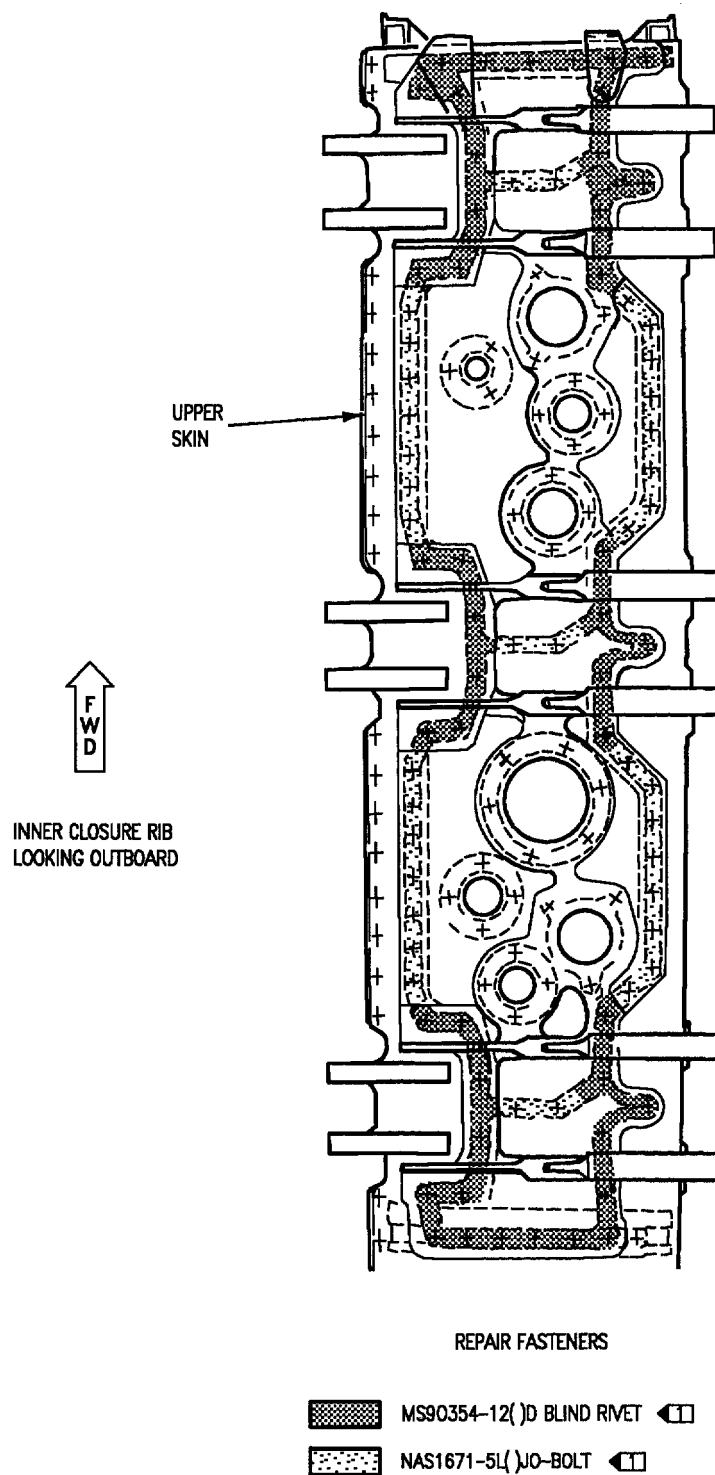
00400601

Figure 6. Inner Closure Rib Fasteners and Repair Fasteners (Sheet 1)



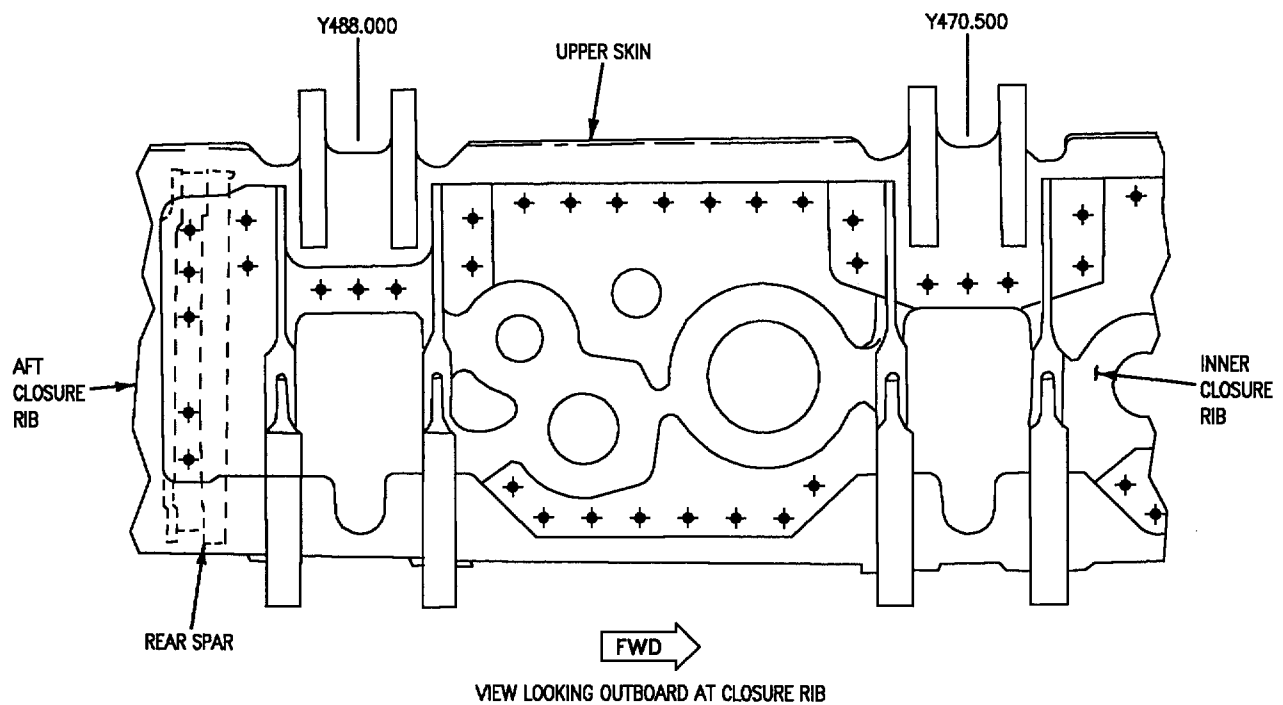
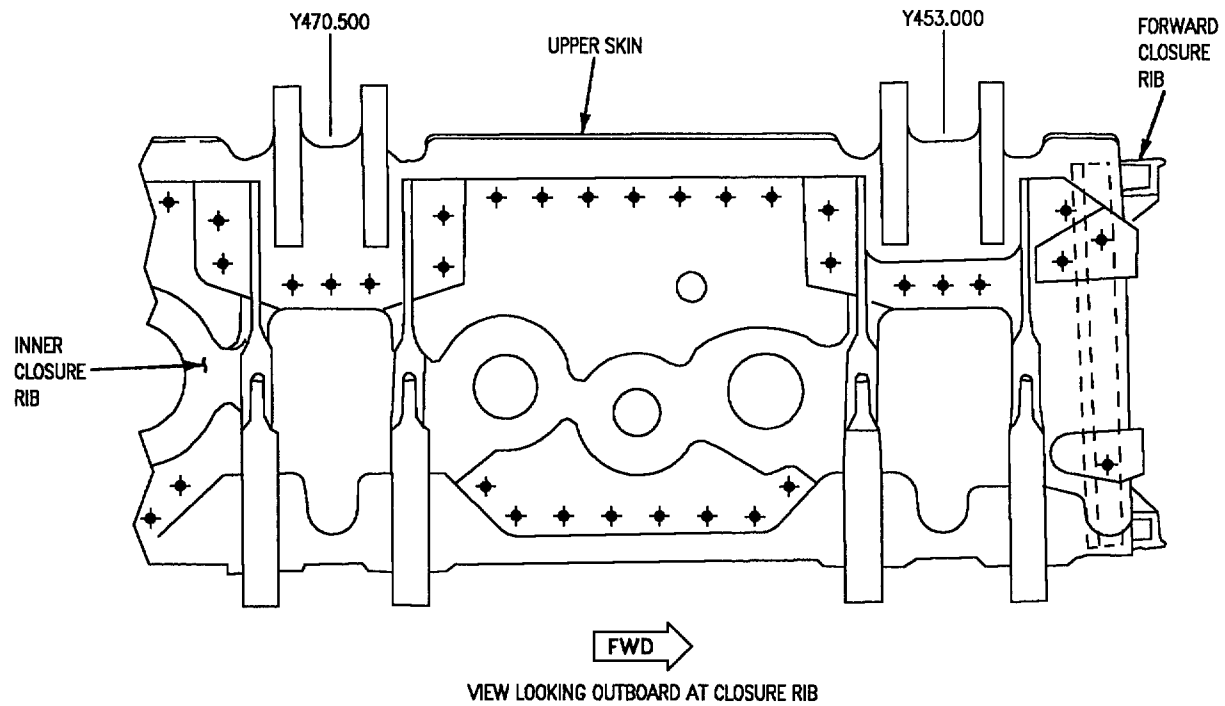
00400602

Figure 6. Inner Closure Rib Fasteners and Repair Fasteners (Sheet 2)



00400603

Figure 6. Inner Closure Rib Fasteners and Repair Fasteners (Sheet 3)



✱ - NOTED FASTENERS REQUIRE TORQUE INSPECTION AND TORQUE STRIPING

00400604

Figure 6. Inner Closure Rib Fasteners and Repair Fasteners (Sheet 4)

IDX NO.	EFT		Nomenclature	Part Number
1	<div>2</div> <div>3</div>		Bolt Washer Plate Nut Bolt Washer Shim	VS3191-5-11 AN960JD516L MS21060L5 VS3191-5-14 AN960JD516 74A110866-3633
2	<div>2</div> <div>3</div>		Pin Collar Pin Collar	HLT312DL-10-11 HL570-10MC HLT312DL-10-12 HL570-10MC
3	<div>4</div> <div>5</div>		Pin Collar Setscrew Pin Collar	HLT64TB-10-6-10 HL570-10MC NAS1081C06A3 HLT64TB-10-6-10 HL570-10MC
4	<div>2</div> <div>3</div>		Pin Collar Pin Collar	HLT312DL-10-9 HL570-10MC HLT312DL-10-10 HL570-10MC
5	<div>2</div> <div>3</div>		Pin Collar Setscrew Bolt Washer	HLT64TB-10-9-29 SW1000-10M NAS1081C06A3 VS3191-5-13 AN960JD516L
6			Pin Collar Setscrew	HLT64TB-10-9-10 SW1000-10M NAS1081C06A3
7	<div>2</div> <div>3</div>		Pin Collar Pin Collar	HLT52YC-10-9 SW1000-10M HLT52YC-10-11 SW1000-10M
8			Pin Collar	HLT52YC-10-11 SW1000-10M
9			Pin Collar Setscrew	HLT64TB-10-10-20 SW1000-10M NAS1081C06A3
10			Pin Collar Setscrew	HLT64TB-10-11-20 SW1000-10M NAS1081C06A3
11			Pin Collar	HLT52YC-10-8 SW1000-10M
12			Bolt Washer Gang Channel	NAS674V6 AN960JD416L G18421JL2-4-10

Figure 6. Inner Closure Rib Fasteners and Repair Fasteners (Sheet 5)






IDX NO.	EFT		Nomenclature	Part Number
13			Bolt Washer Gang Channel	NAS674V5 AN960JD416L G18421JL2-4-11
14			Pin Collar	HLT52YC-10-10 SW1000-10M
15			Pin Collar Setscrew	HLT64TB-10-10-13 SW1000-10M NAS1081C06A3
16			Pin Collar	HLT52YC-10-7 SW1000-10M
17			Bolt Washer Gang Channel	VS3191-5-13 AN960JD516L G18421JL2-5-11
18			Pin Collar	HLT52YC-10-13 SW1000-10M
19	 		Pin Collar Bolt Nut Washer	HLT52YC-10-8 SW1000-10M VS3191-5-9 NAS1291C5M AN960JD516L
20			Bolt Washer Gang Channel	VS3191-5-12 AN960JD516L G18421JL2-5-12
21			Bolt Washer Plate Nut	VS3191-5-13 AN960JD516L F14427-2-5
22	  		Bolt Bolt Nut Assembly Nut Assembly Washer	KS3020-5-15 KS3020-5-16 74A110893-1037, -1038 74A110893-1041, -1042 AN960JD516L
23			Bolt Washer Gang Channel	NAS674V6 AN960JD416L G18421JL2-4-10
24			Bolt Washer Plate Nut	NAS674V6 AN960JD416L F49249E4-2
25			Bolt Washer Gang Channel	VS3191-5-11 AN960JD516L G1842LJL2-5-12

Figure 6. Inner Closure Rib Fasteners and Repair Fasteners (Sheet 6)

IDX NO.	EFT		Nomenclature	Part Number
26	<div>6</div> <div>7</div>		Bolt Washer Nut Bolt Nut Assembly Washer	VS3191-5-13 AN960JD516L NAS1291C5M KS3020-5-15 74A110893-1041, -1042 AN960JD516L
27	<div>8</div>		Bolt Washer Nut	VS3191-5-9 AN960JD516L NAS1291C5M
	<div>10</div>		Bolt Washer Gang Channel	VS3191-5-12 AN960JD516L G18421JL2-5-12
28	<div>8</div> <div>9</div> <div>3</div>		Bolt Washer Nut Bolt Washer Bolt Washer	VS3191-5-9 AN960JD516L NAS1291C5M VS3191-5-12 AN960JD516L VS3191-5-13 AN960JD516L
29	<div>11</div> <div>12</div>		Bolt Washer Plate Nut Bolt Washer	VS3191-5-11 AN960JD516L MS21060L5 VS3191-5-14 AN960JD516L
30	<div>11</div> <div>12</div>		Pin Collar Pin Collar	HLT312DL-10-12 HL570-10MC HLT312DL-10-13 HL570-10MC
31	<div>13</div> <div>14</div>		Pin Collar Setscrew Pin Collar	HLT64TB-10-6-10 SW1000-10M NAS1080C06A3 HLT64TB-10-6-10 SW1000-10M
32	<div>11</div> <div>12</div>		Pin Collar Pin Collar	HLT312DL-10-9 HL570-10MC HLT312DL-10-10 HL570-10MC
33	<div>15</div> <div>16</div> <div>12</div>		Bolt Nut Washer Pin Collar Pin Collar	VS3191-5-12 LH12038-5 AN960JD516L HLT52YC-10-12 SW1000-10M HLT52YC-10-13 SW1000-10M

Figure 6. Inner Closure Rib Fasteners and Repair Fasteners (Sheet 7)

IDX NO.	EFT		Nomenclature	Part Number
34	<div>15</div> <div>16</div> <div>12</div>		Pin Collar Setscrew Bolt Washer Plate Nut Bolt Washer	HLT64TB-10-9-10 SW1000-10M NAS1081C06A3 VS3191-5-9 AN960JD516L MS21060L5 VS3191-5-10 AN960JD516L
35			Pin Collar Setscrew	HLT64TB-8-6-10 HL570-8MC NAS1081C6A2
36			Pin Collar Setscrew	HLT64TB-8-9-26 HL570-8MC NAS1081C6A2
37			Pin Collar Setscrew	HLT64TB-8-8-10 HL570-8MC NAS1081C6A2
38			Bolt	VDP0001-6
39			Bolt	VDP0001-12
40			Bolt Washer	NAS674V12H AN960PD416L
41			Pin Collar Setscrew	HLT64TB-8-7-10 HL570-8MC NAS1081C6A2
LEGEND <div>1</div> Length determined on installation. <div>2</div> Left side only - 161353 thru 161526. <div>3</div> Left side only - 161527 and Up. <div>4</div> 161353 thru 161714. <div>5</div> 161715 and Up. <div>6</div> 161353 thru 161980. <div>7</div> 161981 and Up. <div>8</div> 161353 thru 161359. <div>9</div> 161360 thru 161526. <div>10</div> 161360 and Up. <div>11</div> Right side only - 161353 thru 161526. <div>12</div> Right side only - 161527 and Up. <div>13</div> Right side only - 161353 thru 161713. <div>14</div> Right side only - 161714 and Up. <div>15</div> Right side only - 161353 thru 161520. <div>16</div> Right side only - 161521 thru 161526.				

Figure 6. Inner Closure Rib Fasteners and Repair Fasteners (Sheet 8)

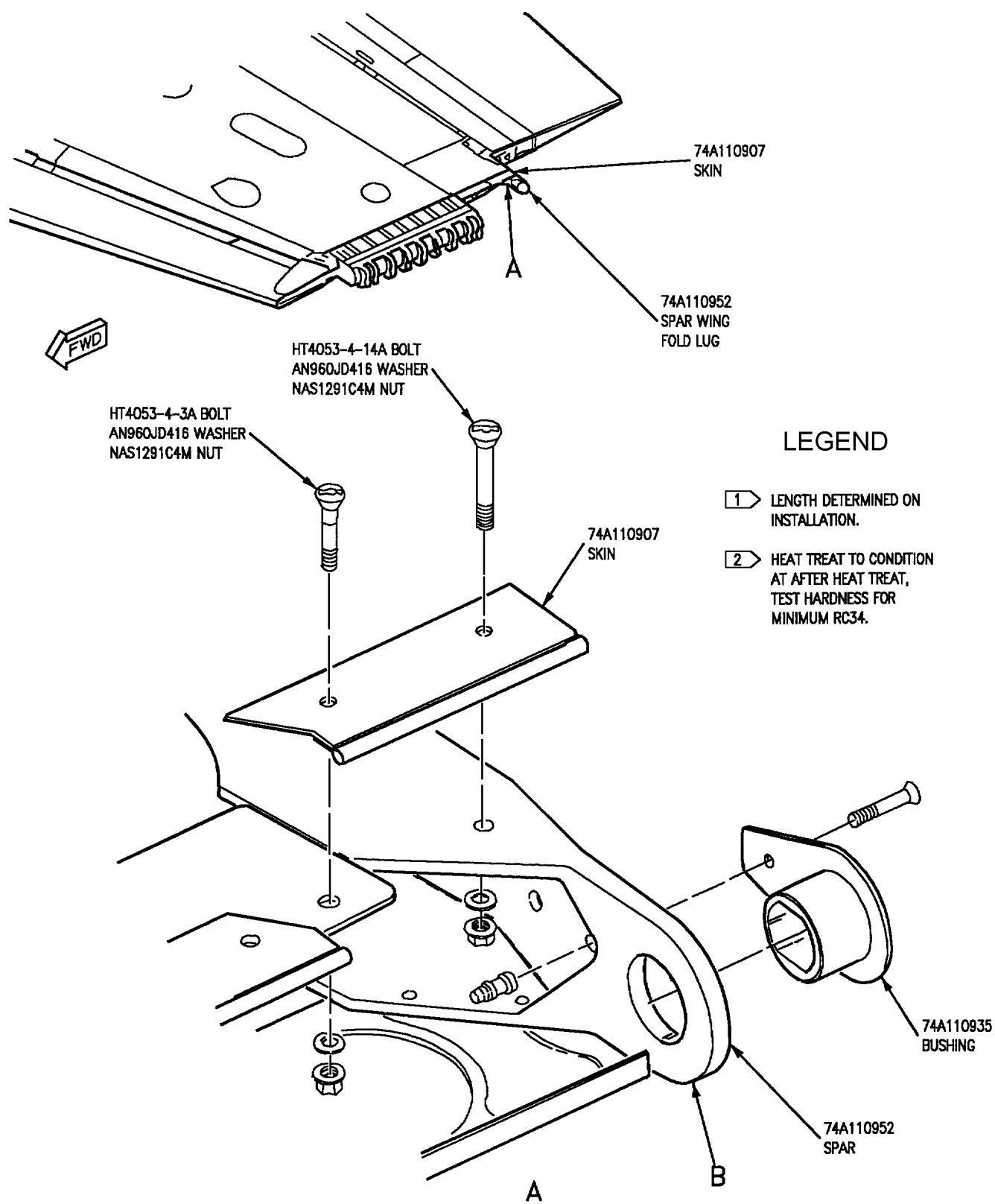


Figure 7. Aft Spar Fold Lug Repair, 161353 thru 161528 (Sheet 1)

00400701

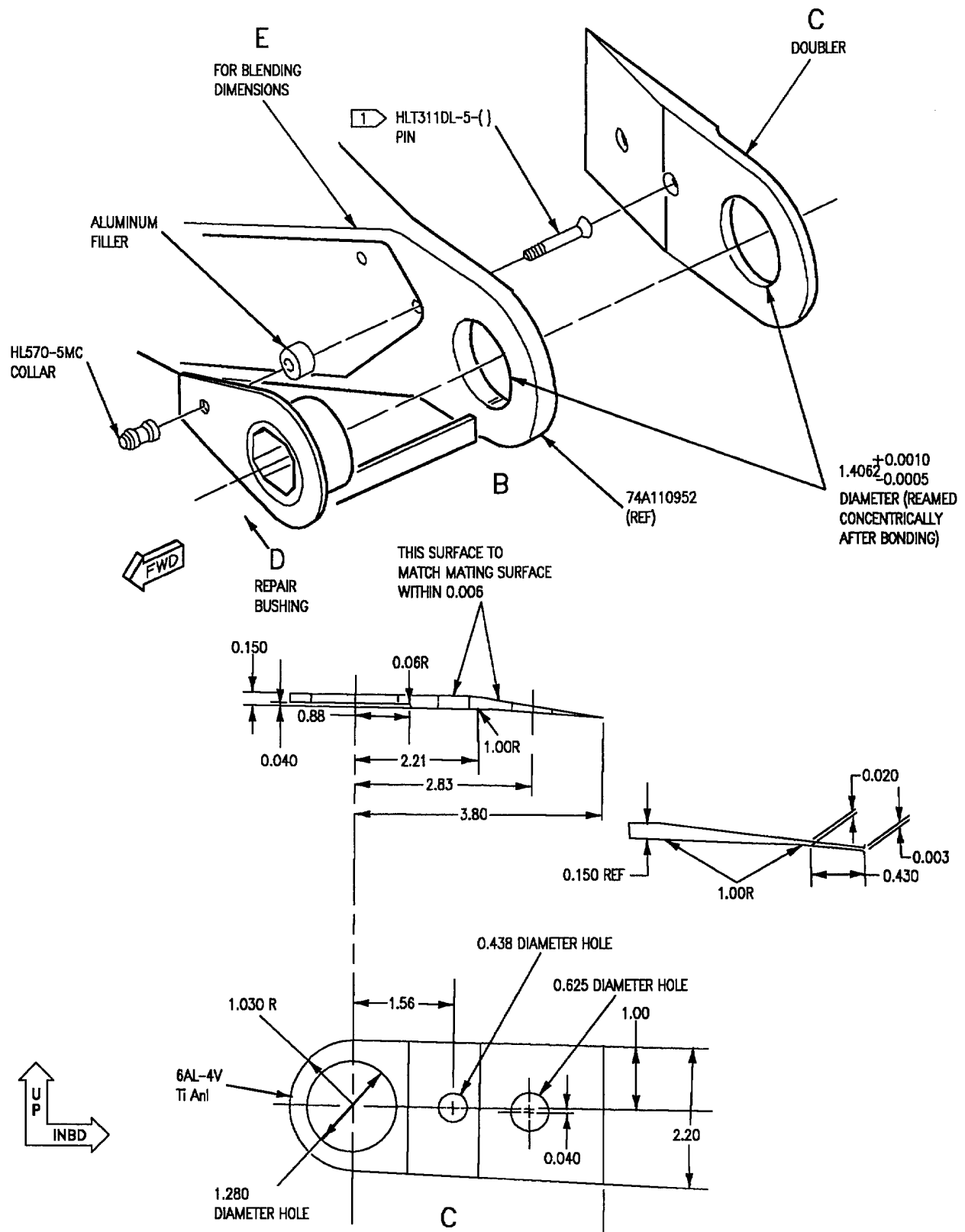
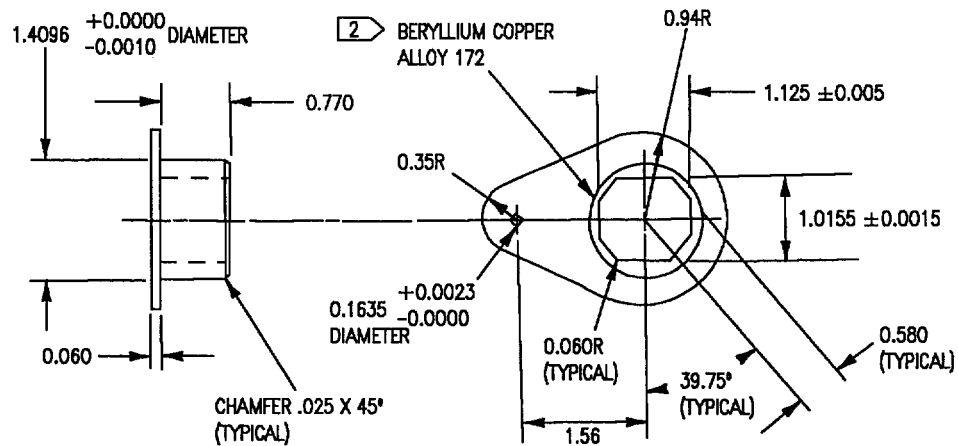
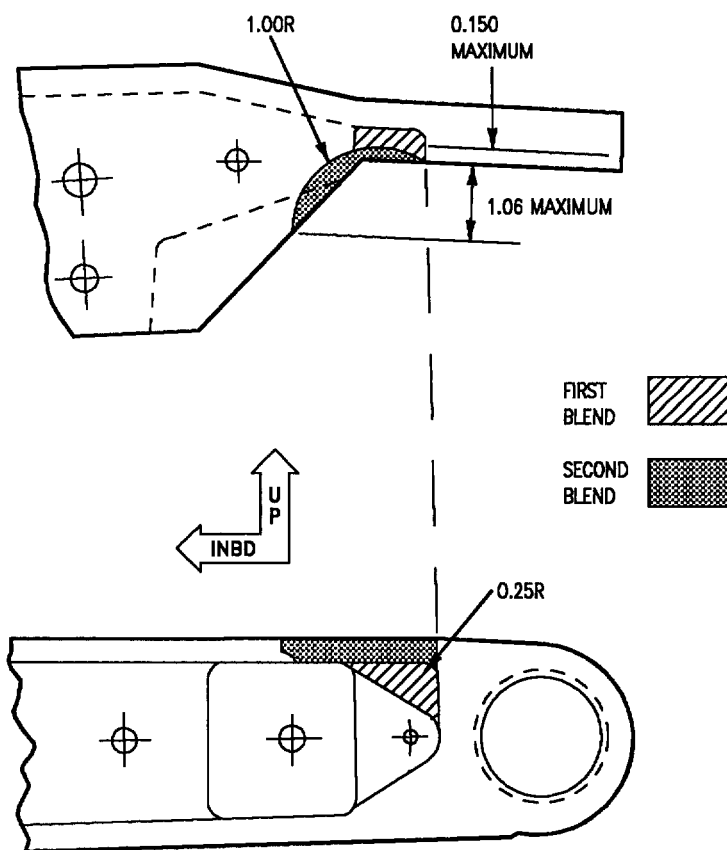


Figure 7. Aft Spar Fold Lug Repair, 161353 thru 161528 (Sheet 2)



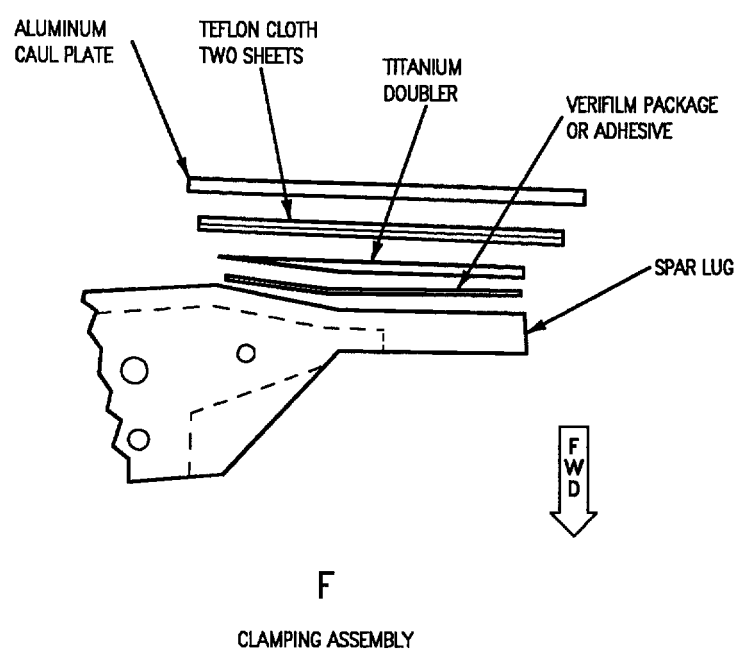
D



E

BLENDING DIMENSIONS
OF SPAR UPPER FLANGE
AND WEB

Figure 7. Aft Spar Fold Lug Repair, 161353 thru 161528 (Sheet 3)



00400704

Figure 7. Aft Spar Fold Lug Repair, 161353 thru 161528 (Sheet 4)

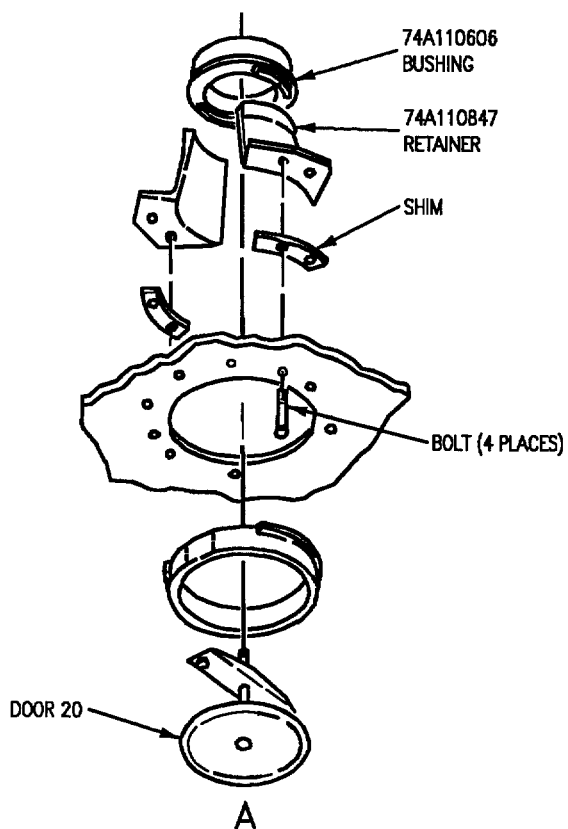
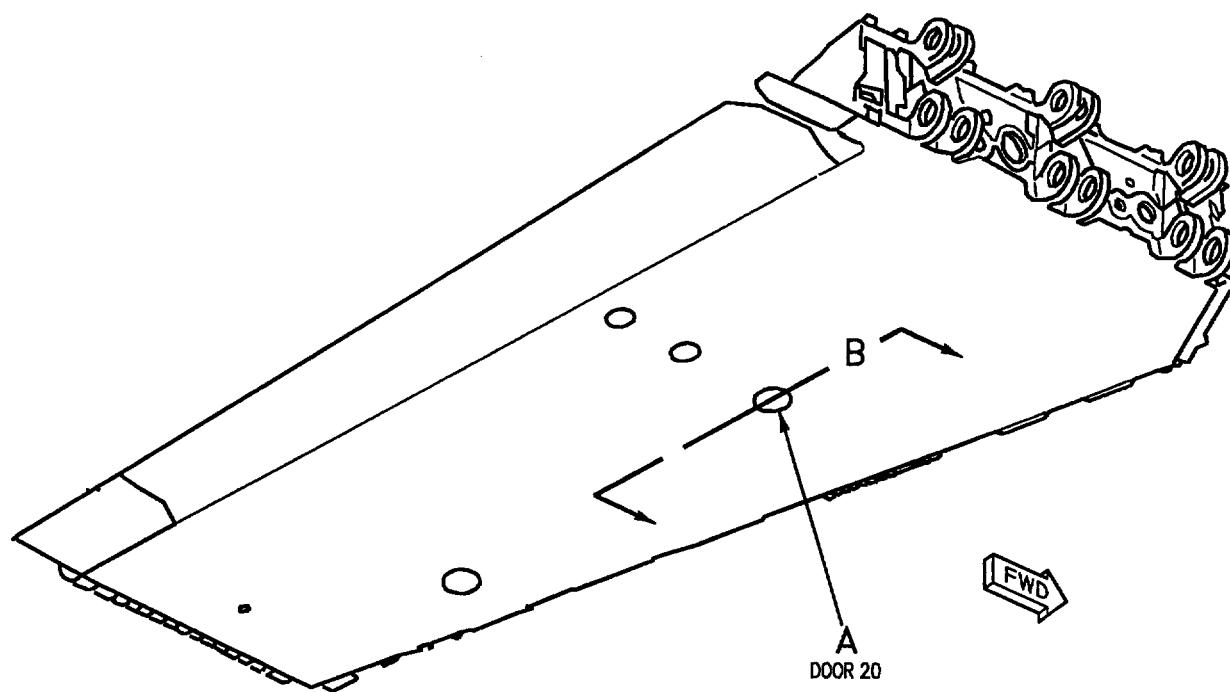


Figure 8. Inboard Pylon Upper Bushing Alignment (Sheet 1)

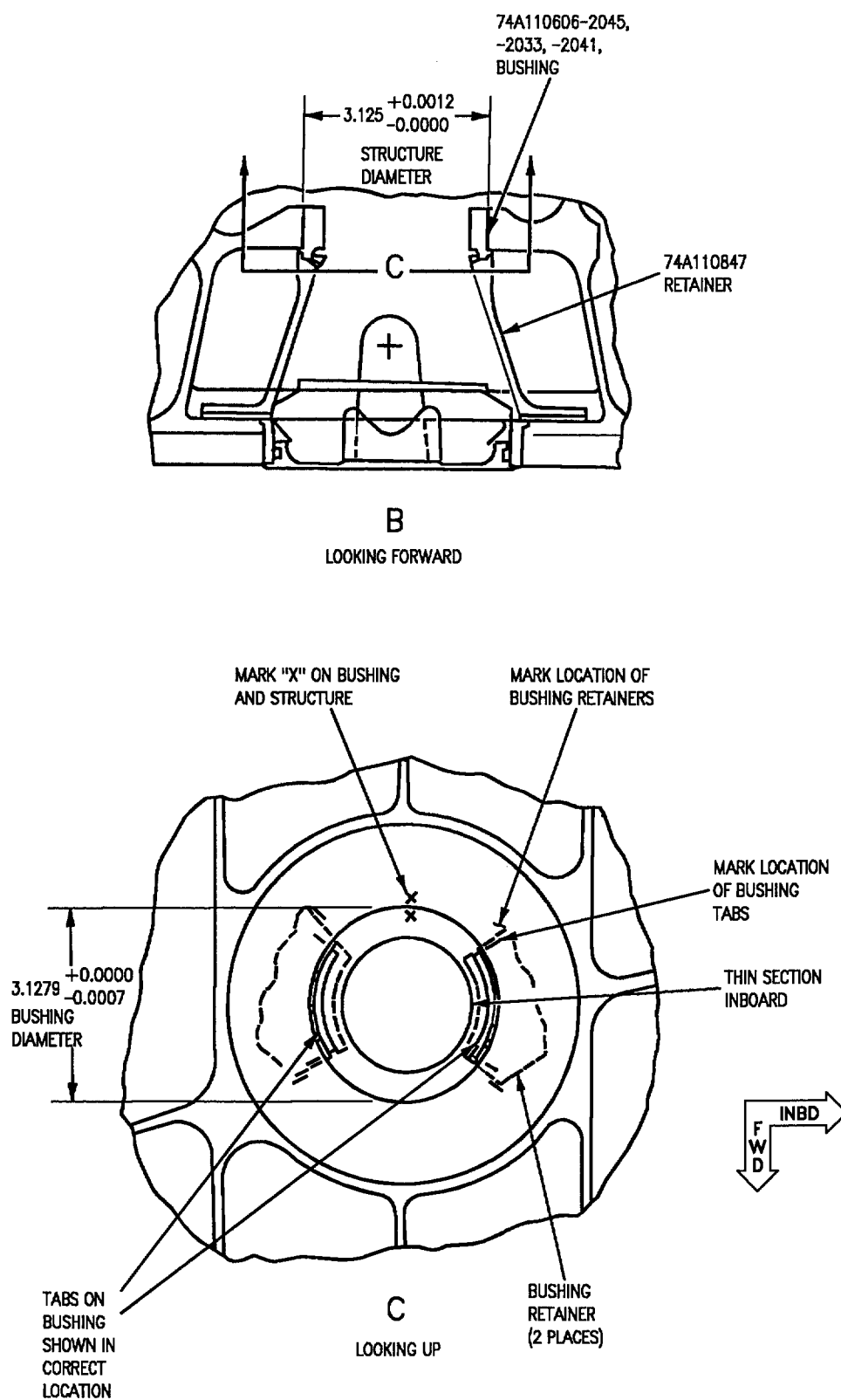


Figure 8. Inboard Pylon Upper Bushing Alignment (Sheet 2)

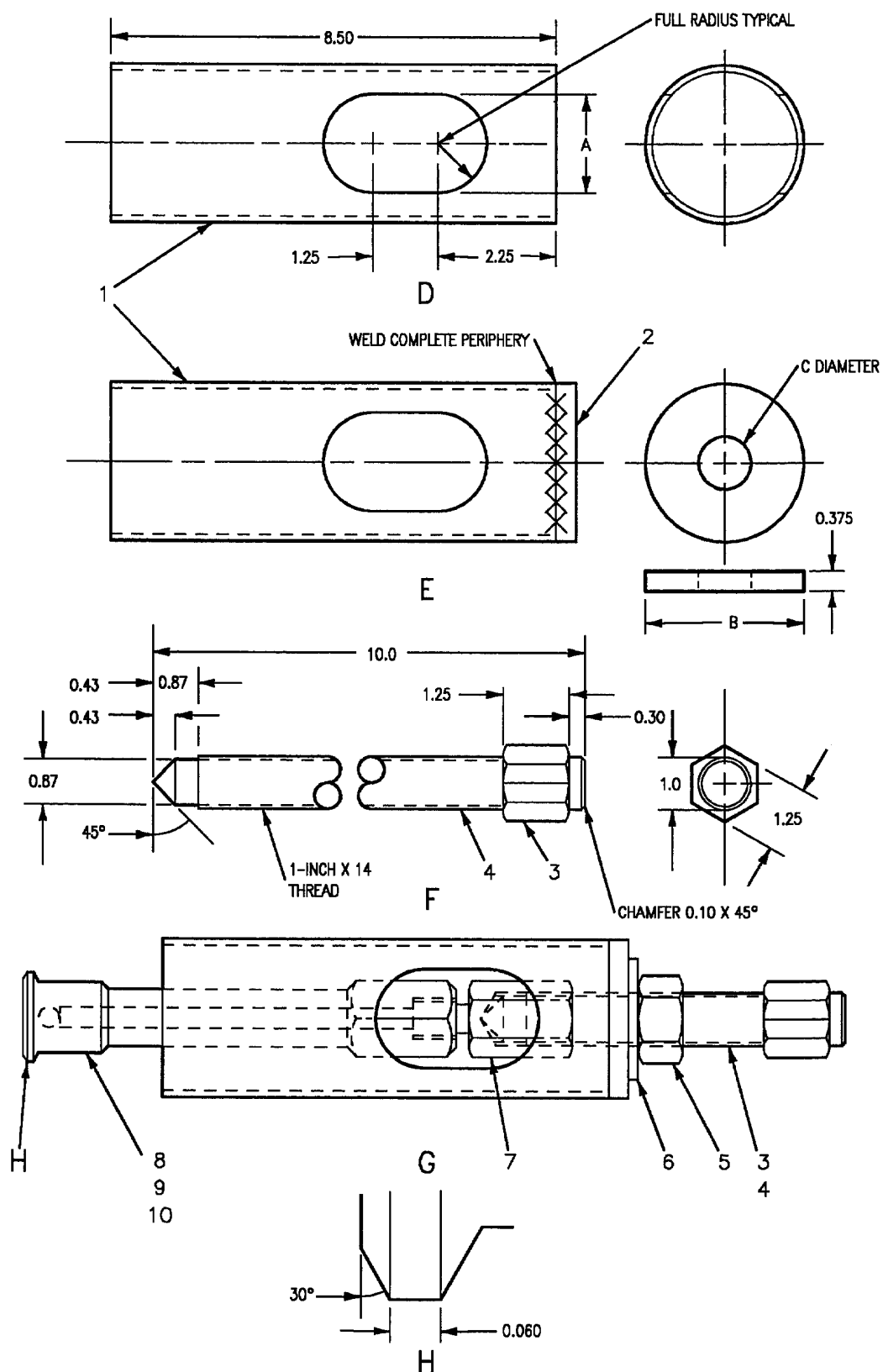


Figure 8. Inboard Pylon Upper Bushing Alignment (Sheet 3)

2 INCH DIAMETER BEARING PULLER, MATERIAL LIST

IDX. NO.	PART NAME	SPECIFICATION, PART NO. OR VENDOR	DIMENSION
1	YOKE	TM951 STANDARD BLACK PIPE	2.0 DIA X 9.0 L
2	END PIECE	TM012 METAL	3/8 X 2.5 X 2.5
3	PRESSURE SCREW	CG-270-1A SNAP-ON-TOOL	
4	N/A	N/A	
5	NUT	CG-45-2 SNAP-ON-TOOL	
6	WASHER	FLAT-STEEL	3/4-INCH I.D.
7	EXPANDING ROD	CG-45-4 SNAP-ON-TOOL	
8	COLLET	CG-45-15 SNAP-ON-TOOL (ALTERED)	
9	COLLET	CG-45-6 SNAP-ON-TOOL (ALTERED)	
10	COLLET	CG-45-7 SNAP-ON-TOOL (ALTERED)	

2 INCH DIAMETER PULLER

IDX. NO.	DIM A	DIM B	DIM C
1	1.87		
2		2.35	0.75

3 INCH DIAMETER BEARING PULLER, MATERIAL LIST

IDX. NO.	PART NAME	SPECIFICATION, PART NO. OR VENDOR	DIMENSION
1	YOKE	TM951 STANDARD BLACK PIPE	3.0 DIA X 9.0 L
2	END PIECE	TM012 METAL	3/8 X 4.0 X 4.0
3	N/A	N/A	
4	ROD	TM317	1.5 X 10.5
5	NUT	COMMON HEX NUT-STEEL	1-INCH X 14
6	WASHER	FLAT-STEEL	1-INCH I.D.
7	EXPANDING ROD	CG-46-3 SNAP-ON-TOOL	
8	COLLET	CG-46-4 SNAP-ON-TOOL (ALTERED)	
9	COLLET	CG-46-5 SNAP-ON-TOOL (ALTERED)	
10	COLLET	CG-46-6 SNAP-ON-TOOL (ALTERED)	

3 INCH DIAMETER PULLER

IDX. NO.	DIM A	DIM B	DIM C
1	3.40		
2		4.00	1.00

Figure 8. Inboard Pylon Upper Bushing Alignment (Sheet 4)

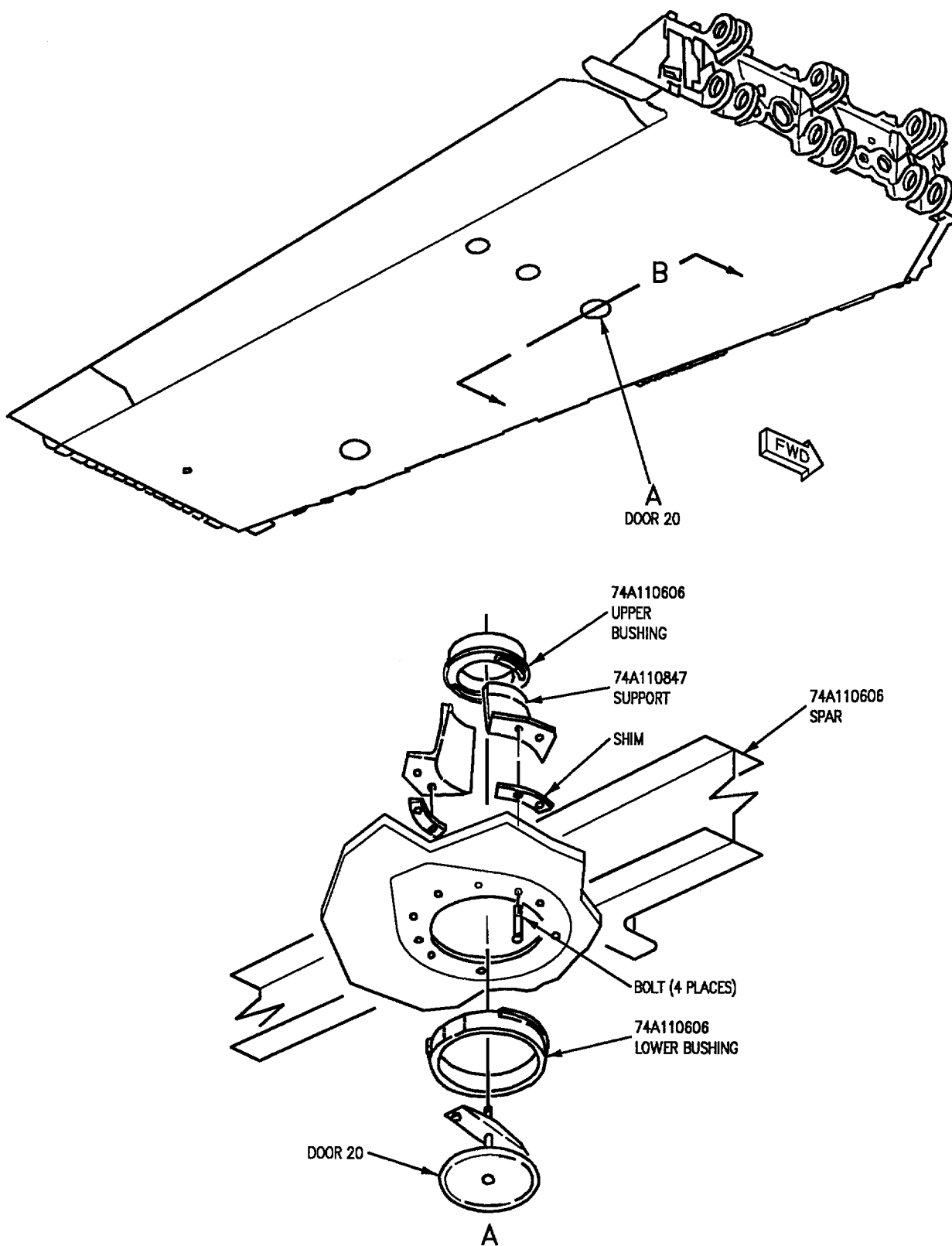


Figure 9. Inboard Pylon Lower Bushing Alignment (Sheet 1)

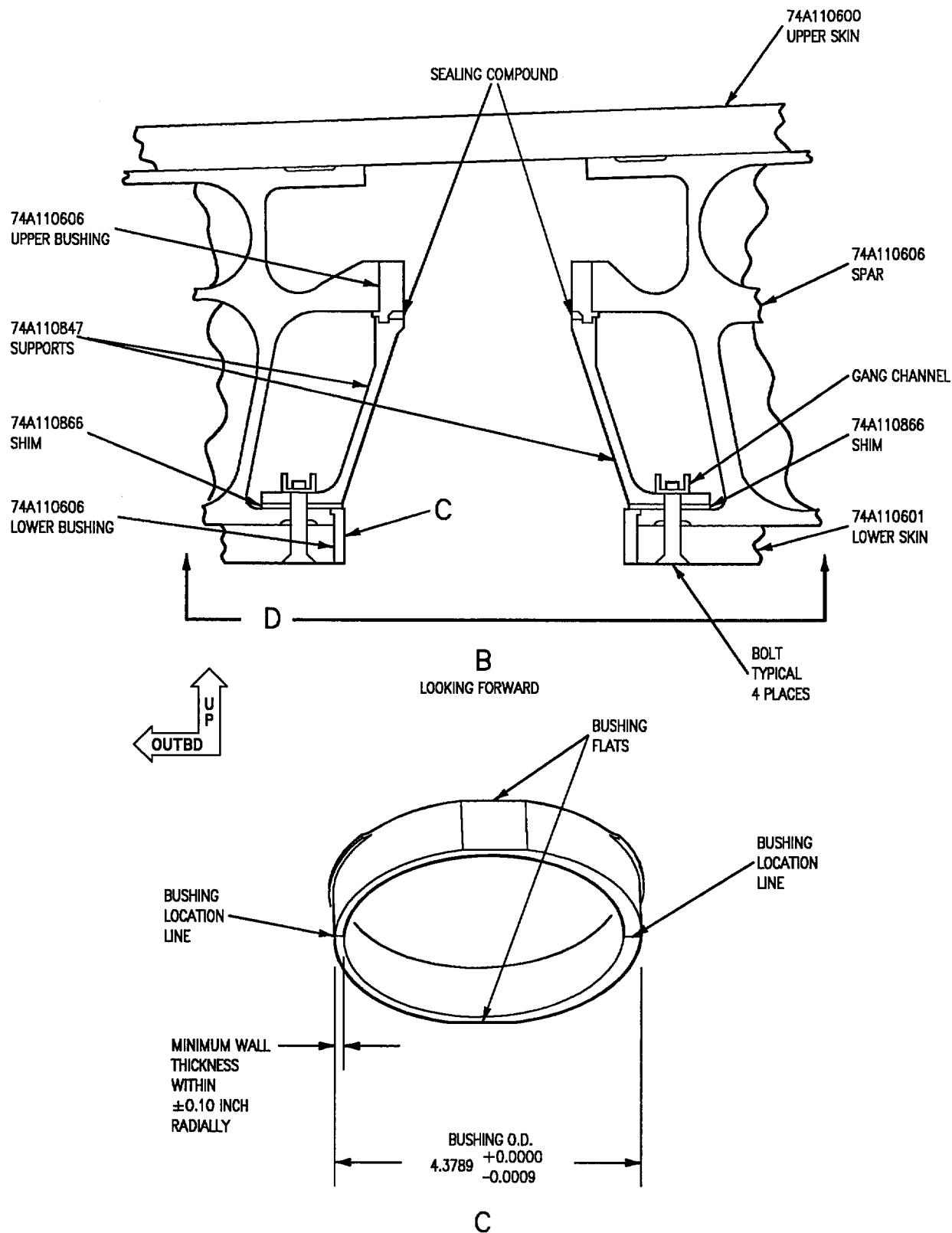


Figure 9. Inboard Pylon Lower Bushing Alignment (Sheet 2)

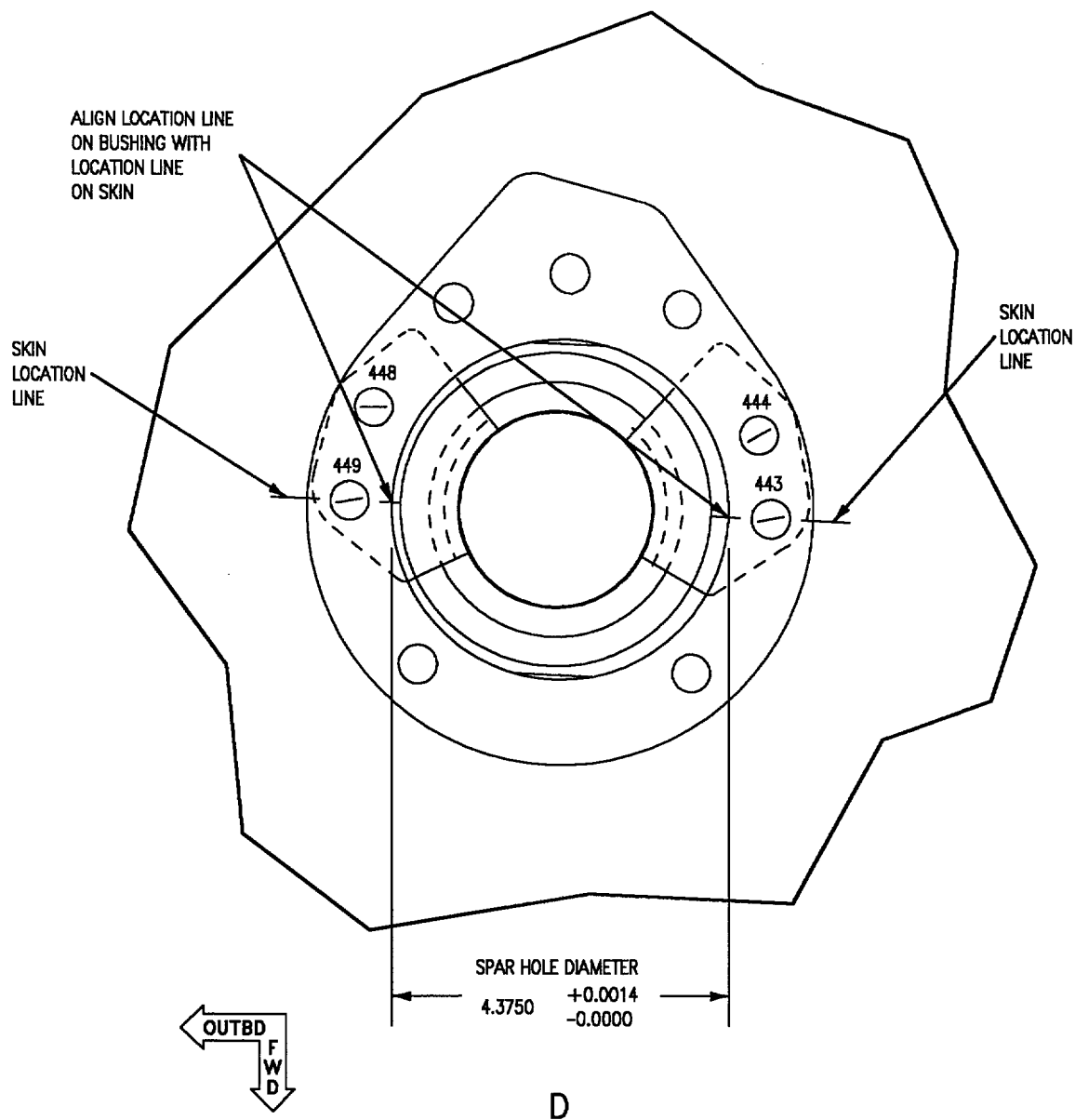


Figure 9. Inboard Pylon Lower Bushing Alignment (Sheet 3)

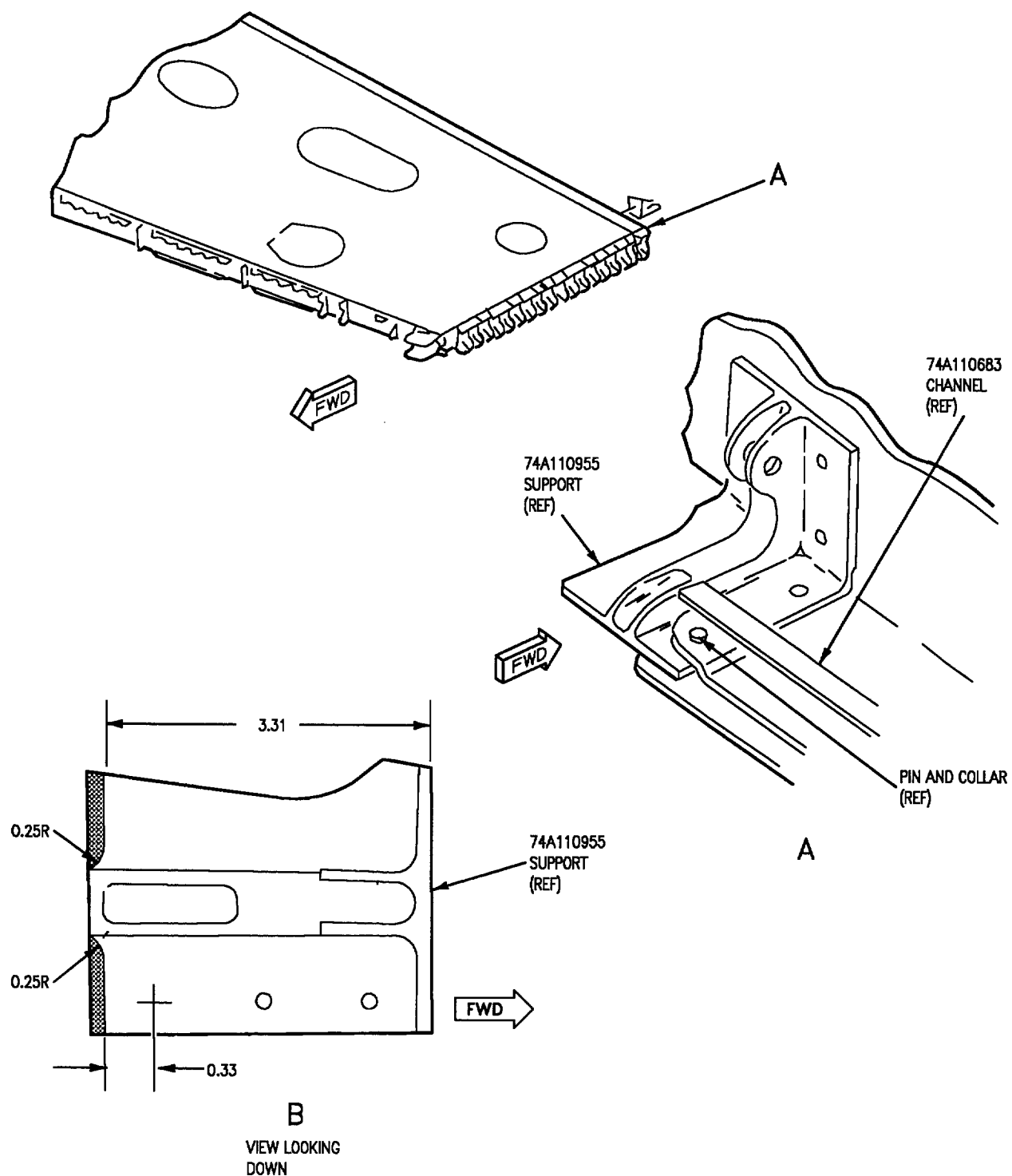


Figure 10. Trailing Edge Flap Support Assembly Repair (Sheet 1)

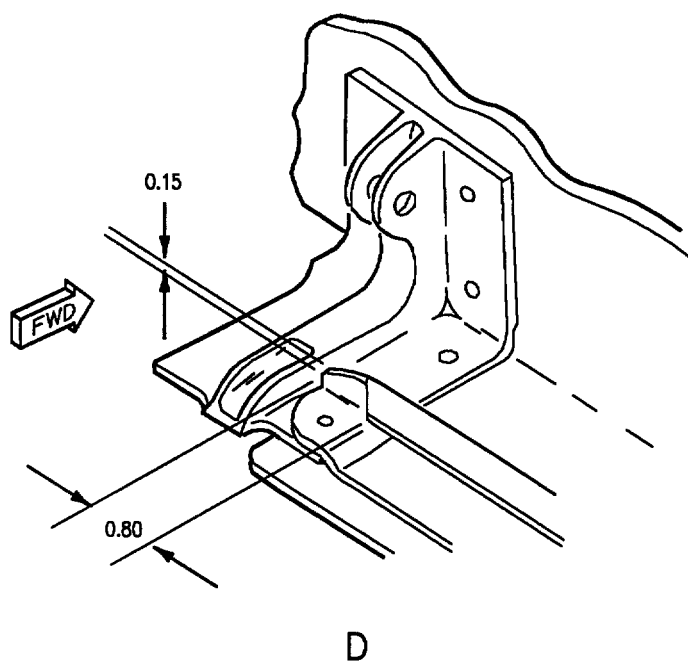
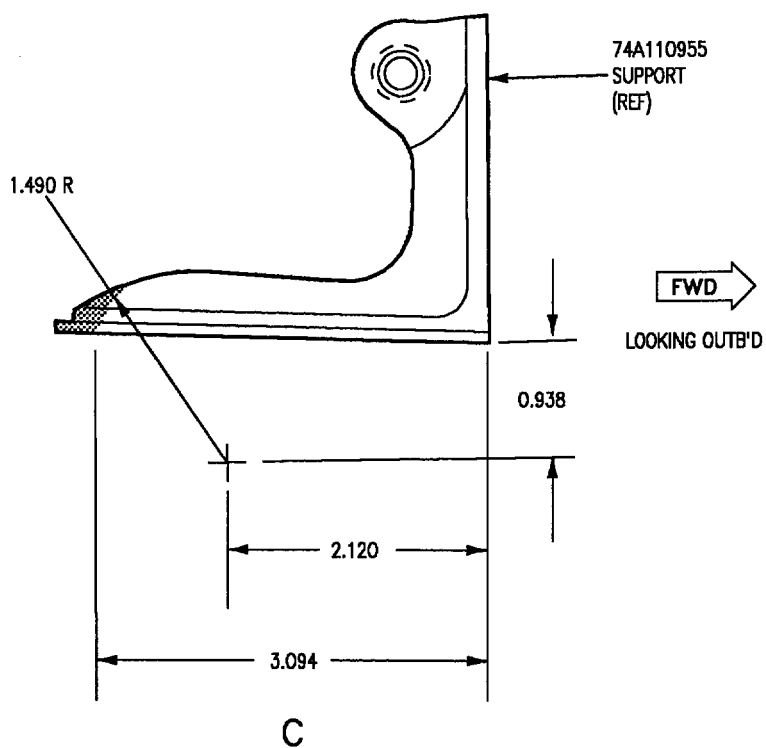
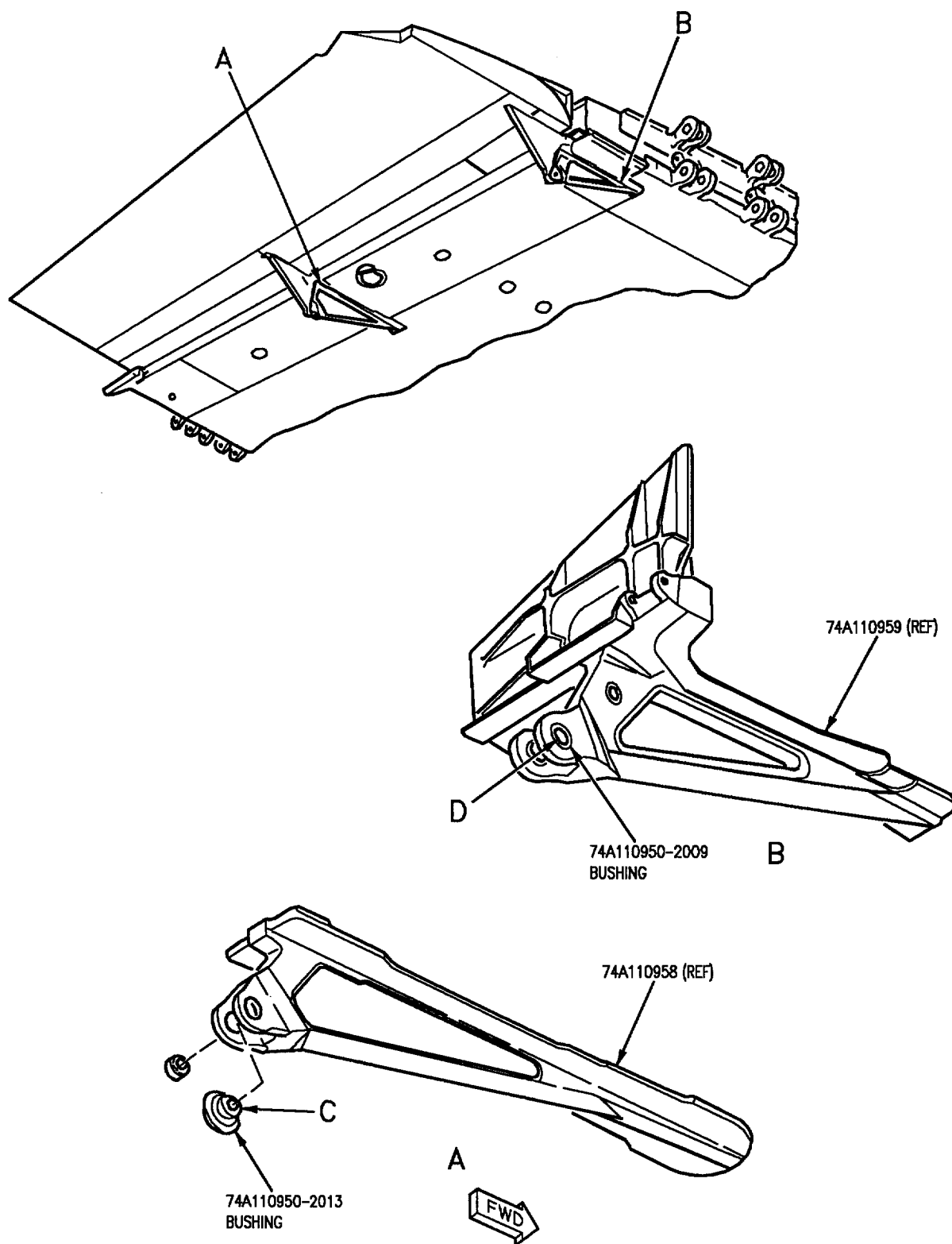
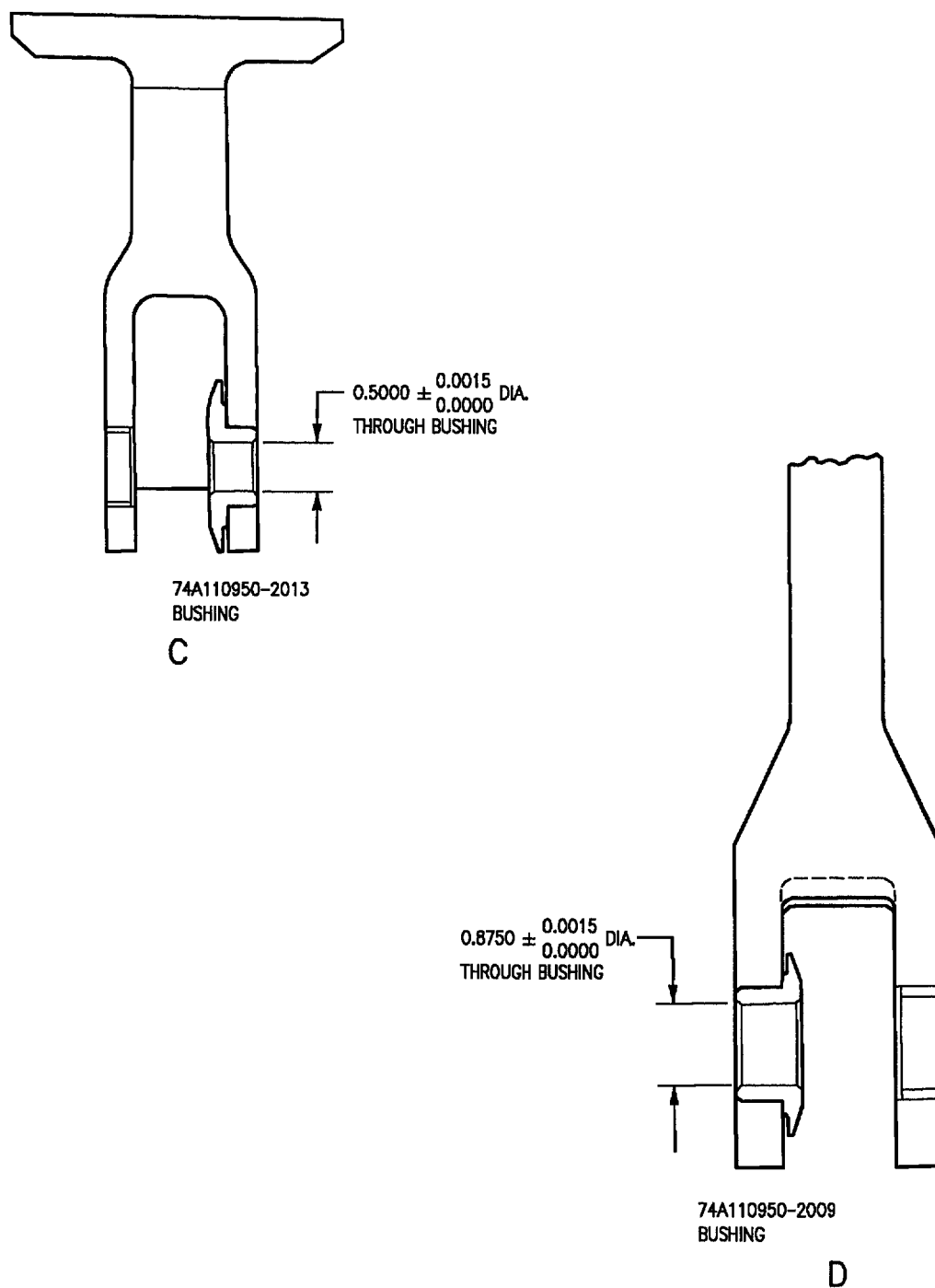


Figure 10. Trailing Edge Flap Support Assembly Repair (Sheet 2)



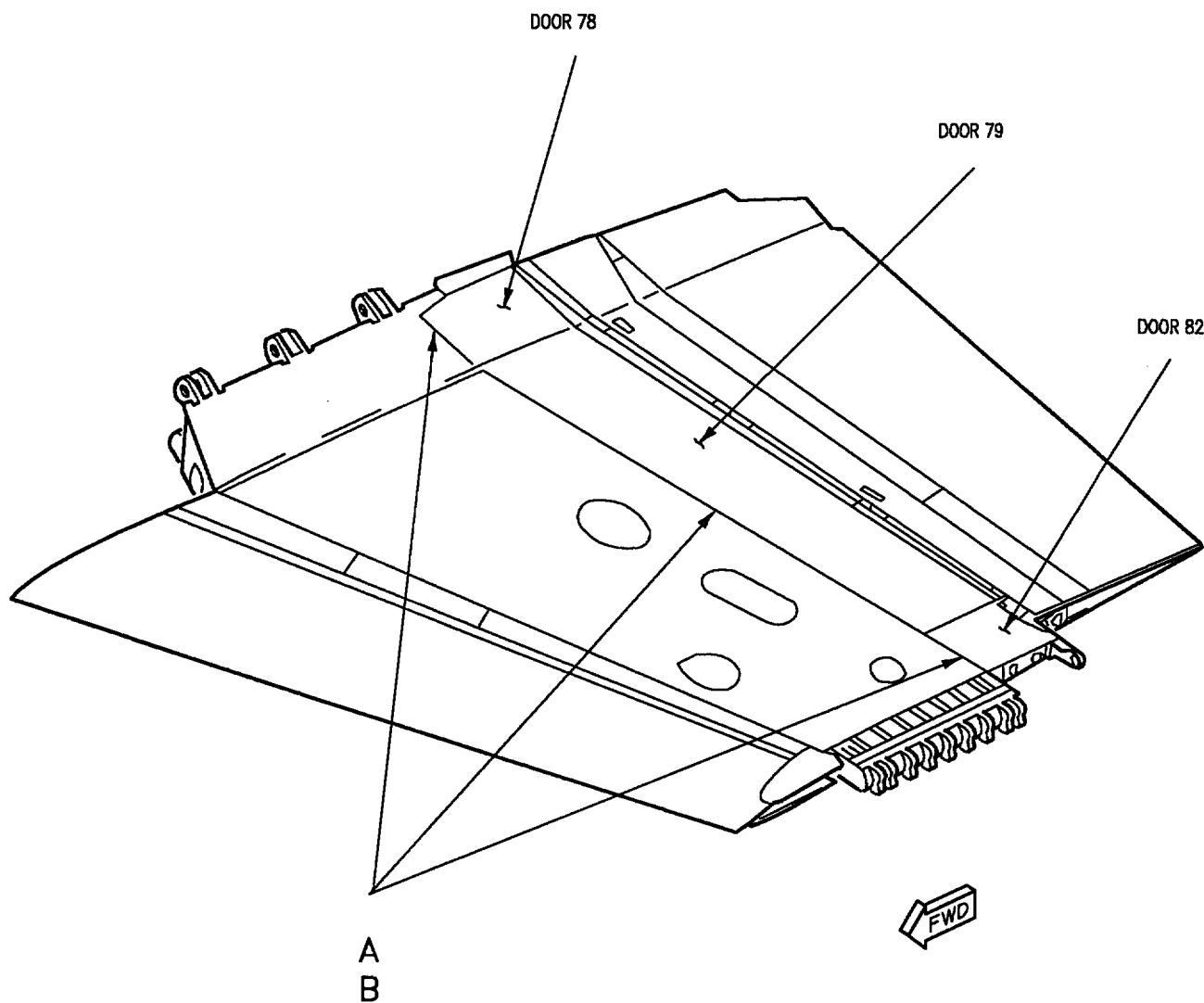
04001101

Figure 11. Bushings, Trailing Edge Flap Hinges, Removal and Installation (Sheet 1)



04001102

Figure 11. Bushings, Trailing Edge Flap Hinges, Removal and Installation (Sheet 2)



04001201

Figure 12. Corrosion Damage Repair (Sheet 1)

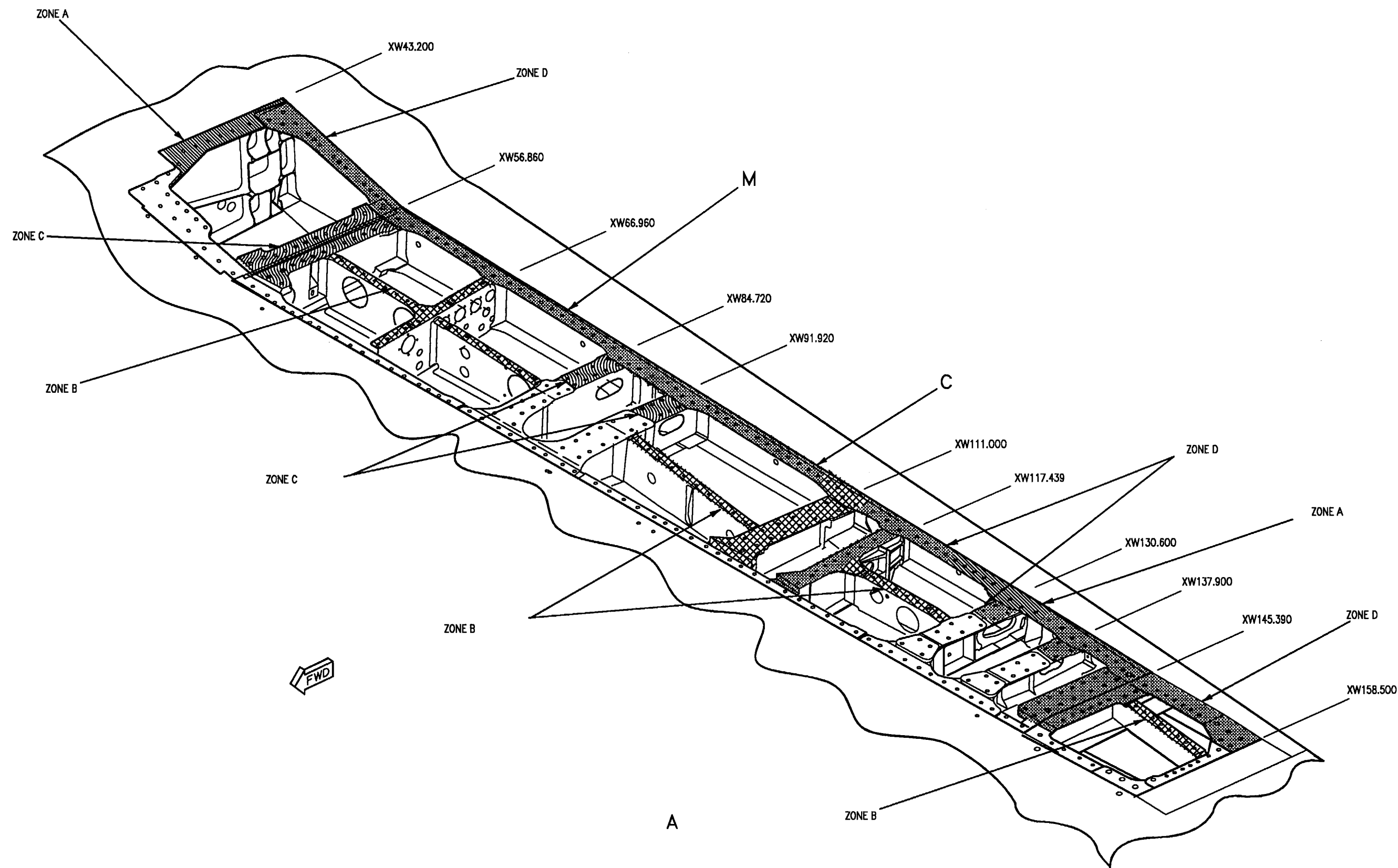
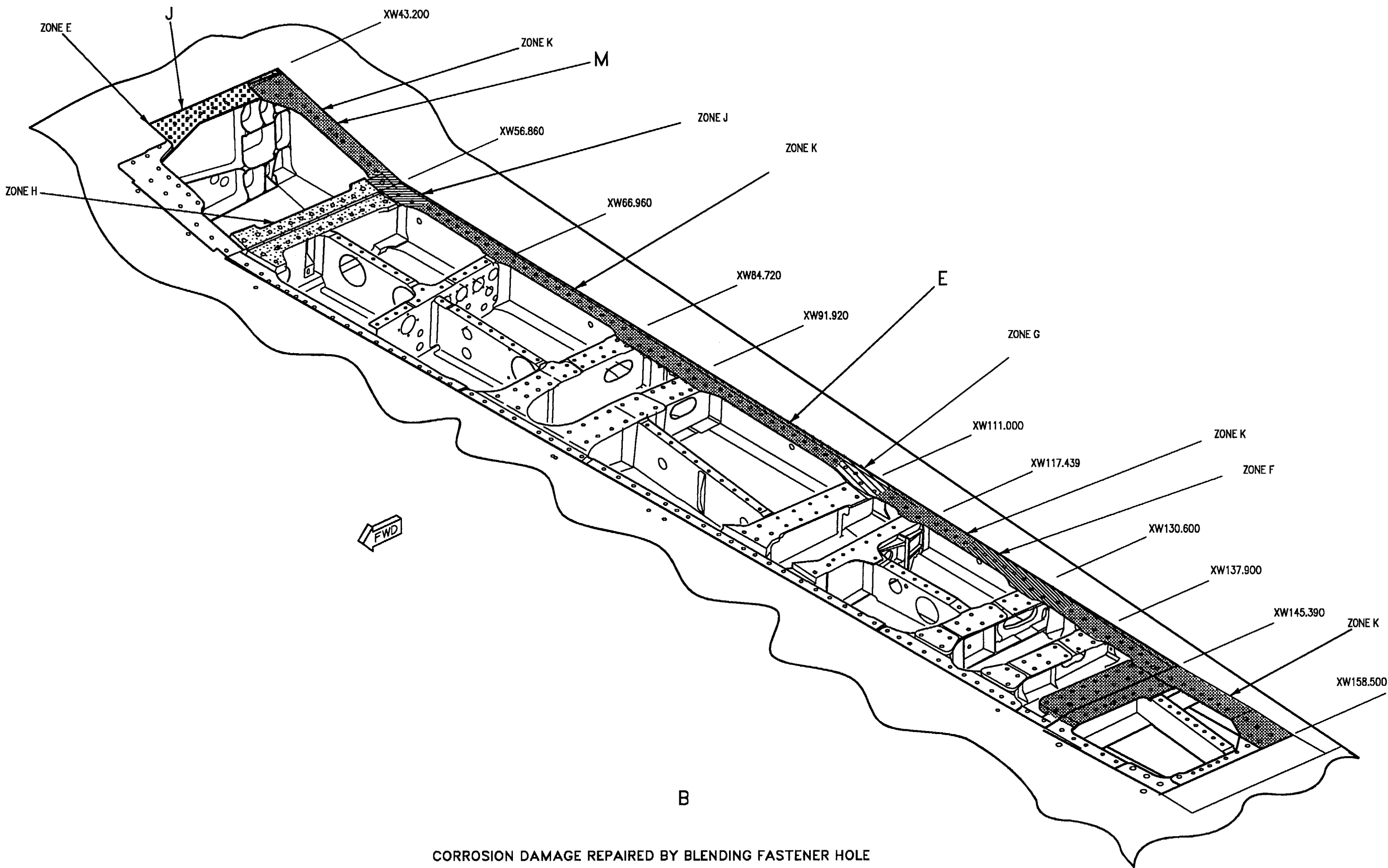


Figure 12. Corrosion Damage Repair (Sheet 2)



CORROSION DAMAGE REPAIRED BY BLENDING FASTENER HOLE
AND BUSHING INSTALLATION
Figure 12. Corrosion Damage Repair (Sheet 3)

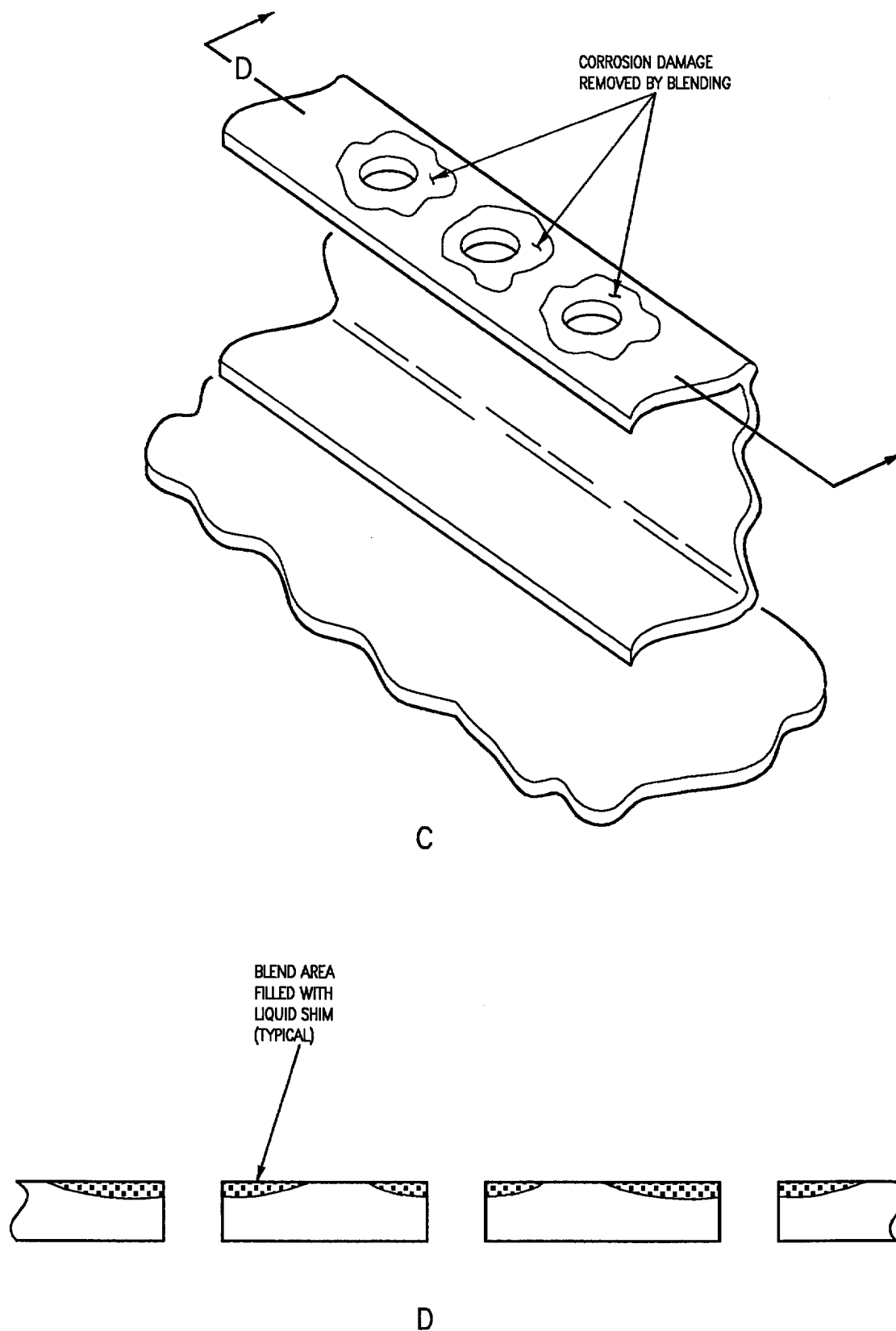


Figure 12. Corrosion Damage Repair (Sheet 4)

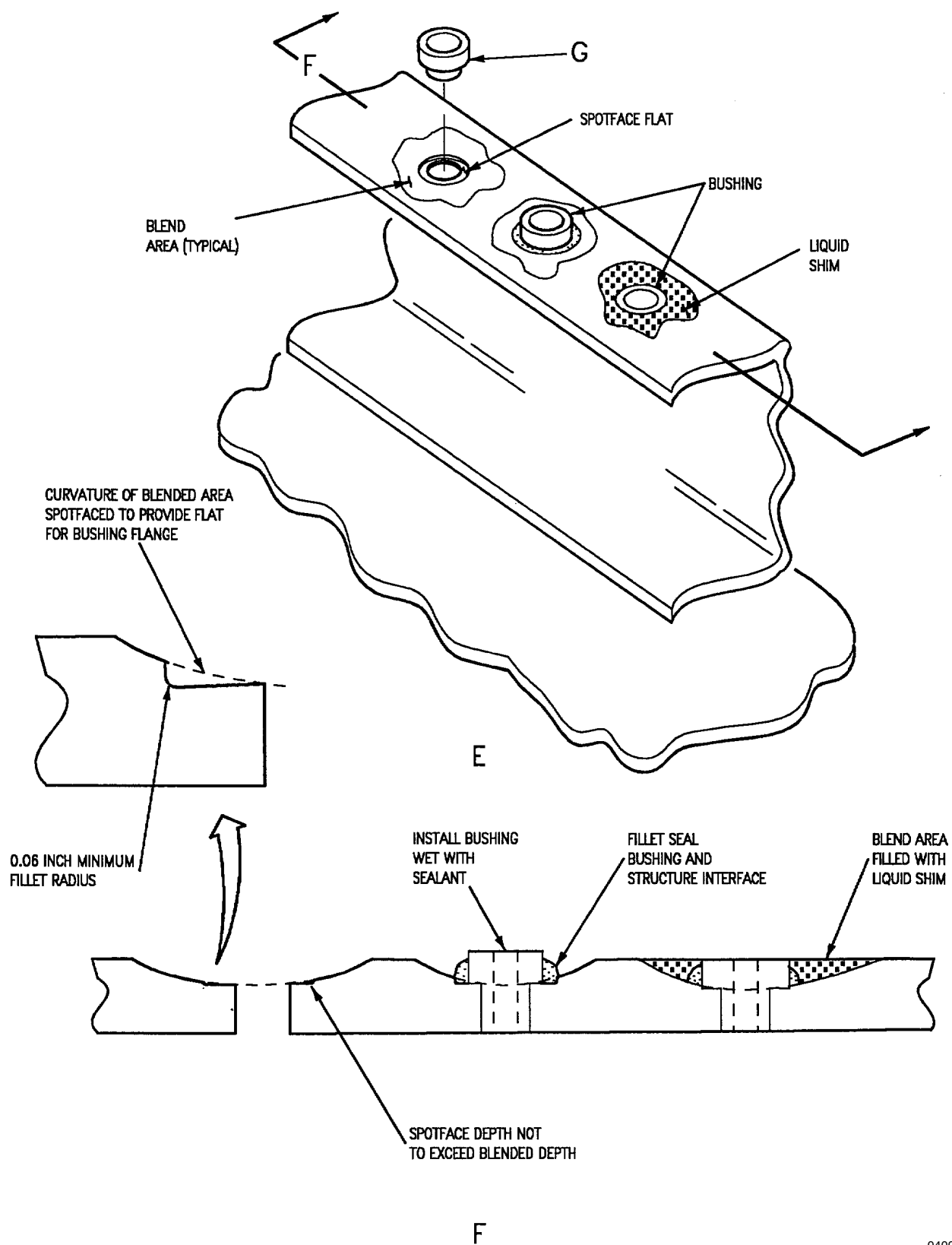


Figure 12. Corrosion Damage Repair (Sheet 5)

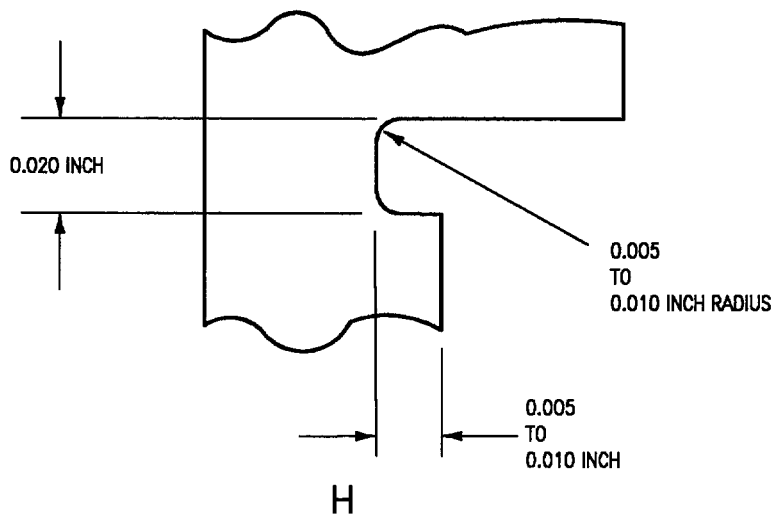
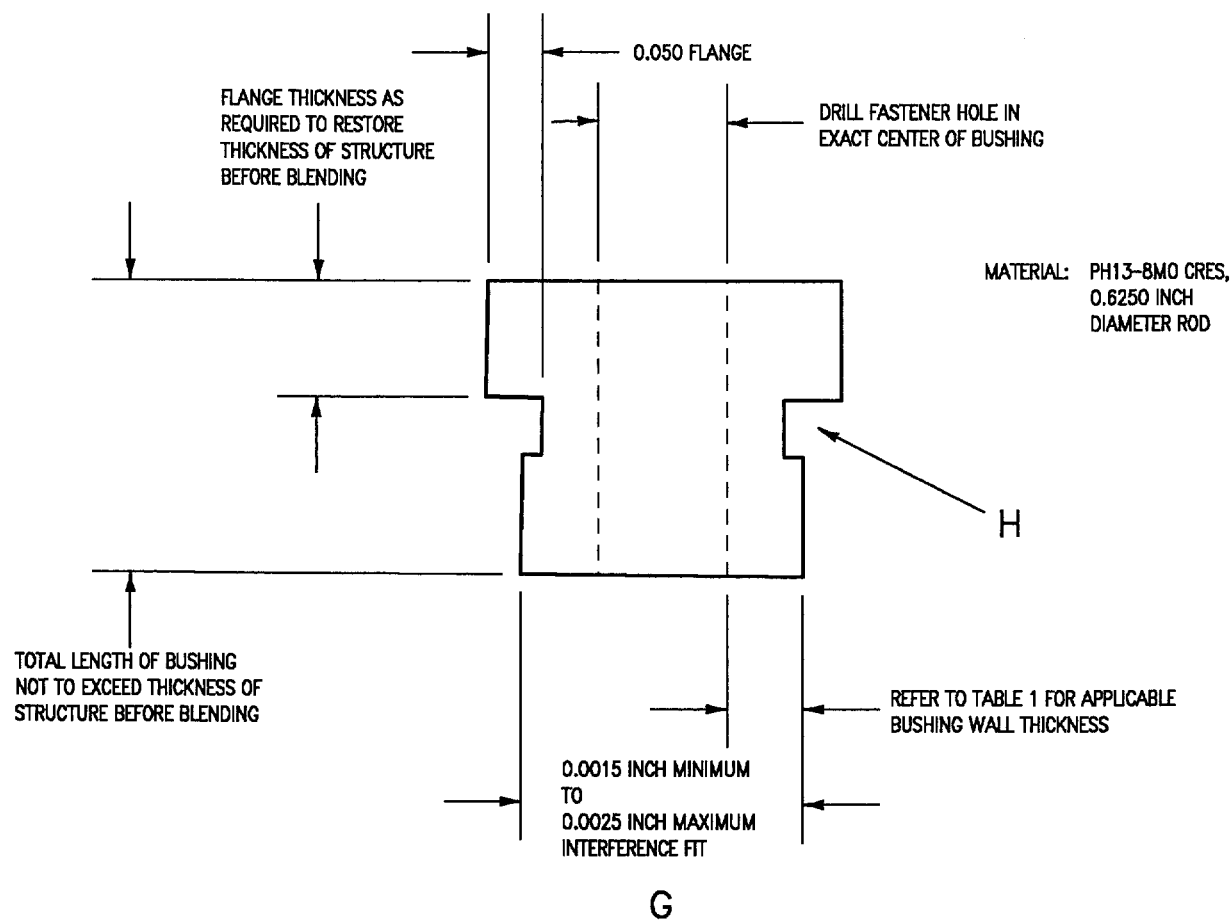
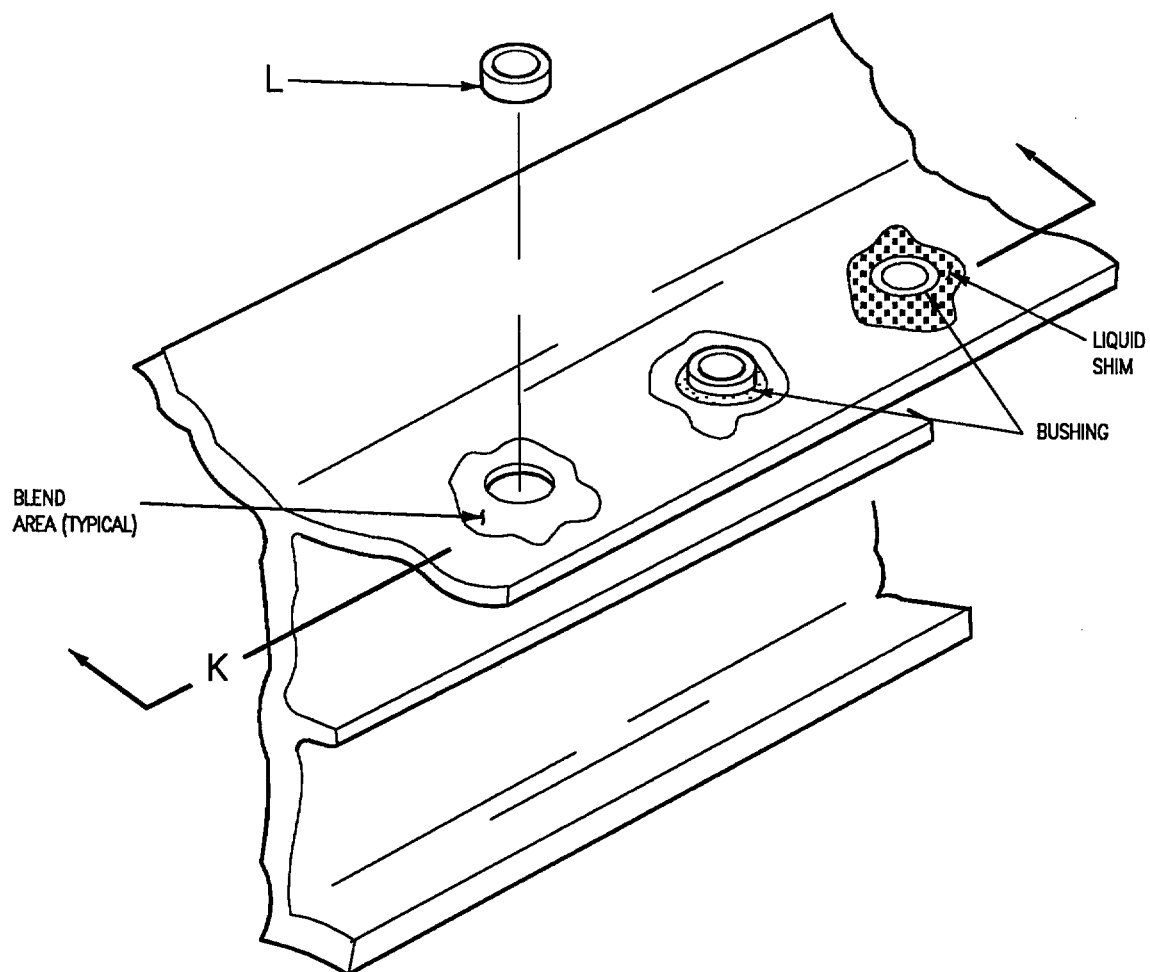
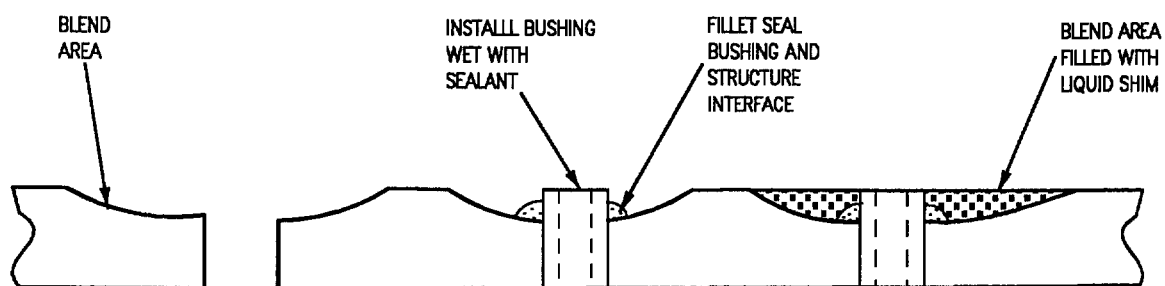


Figure 12. Corrosion Damage Repair (Sheet 6)



J

APPLICABLE TO ZONE E ONLY



K

APPLICABLE TO ZONE E ONLY

Figure 12. Corrosion Damage Repair (Sheet 7)

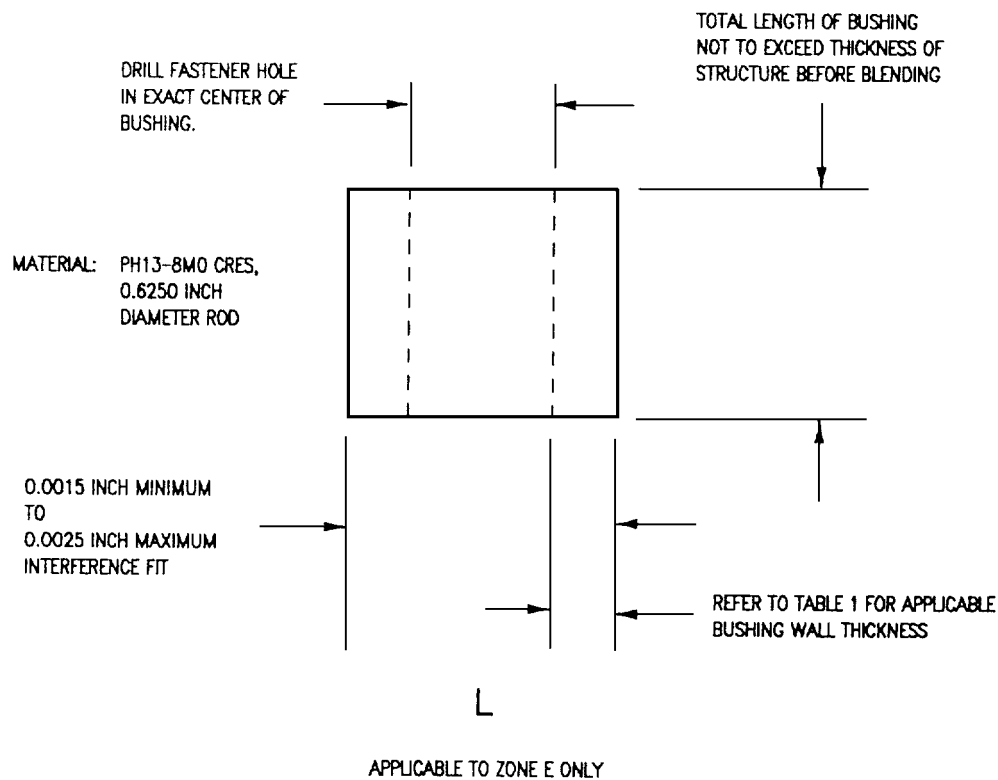
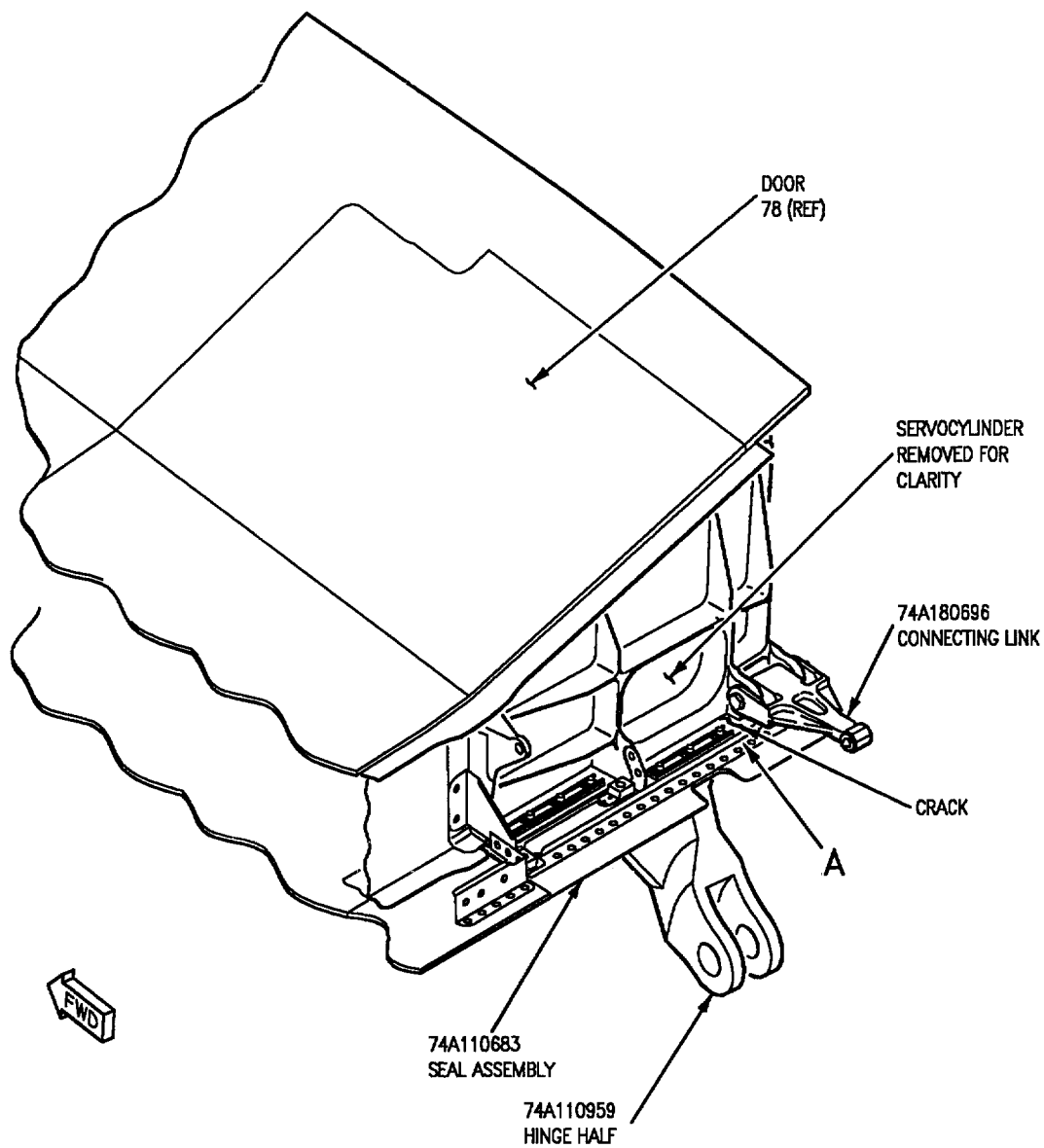
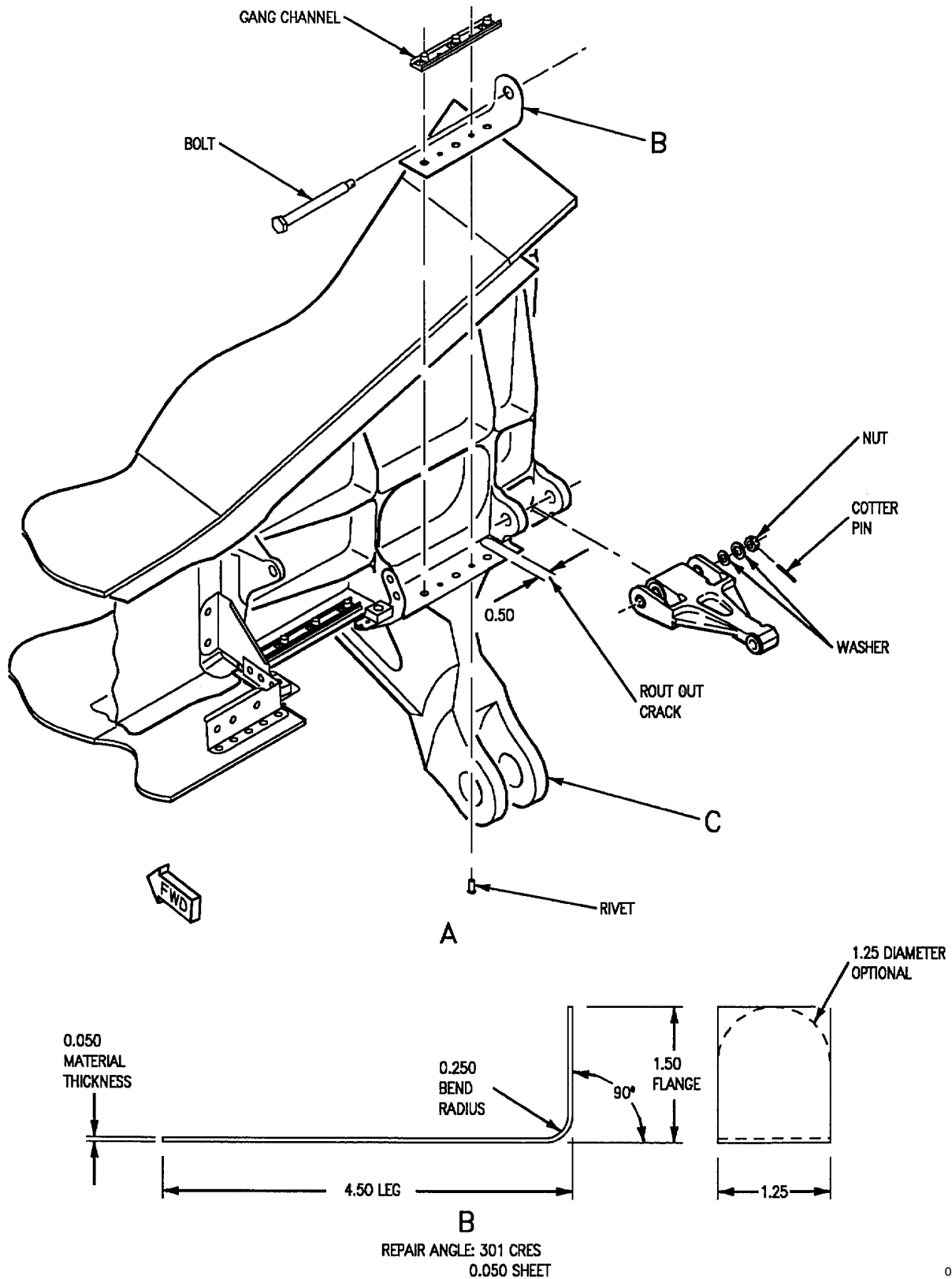


Figure 12. Corrosion Damage Repair (Sheet 8)



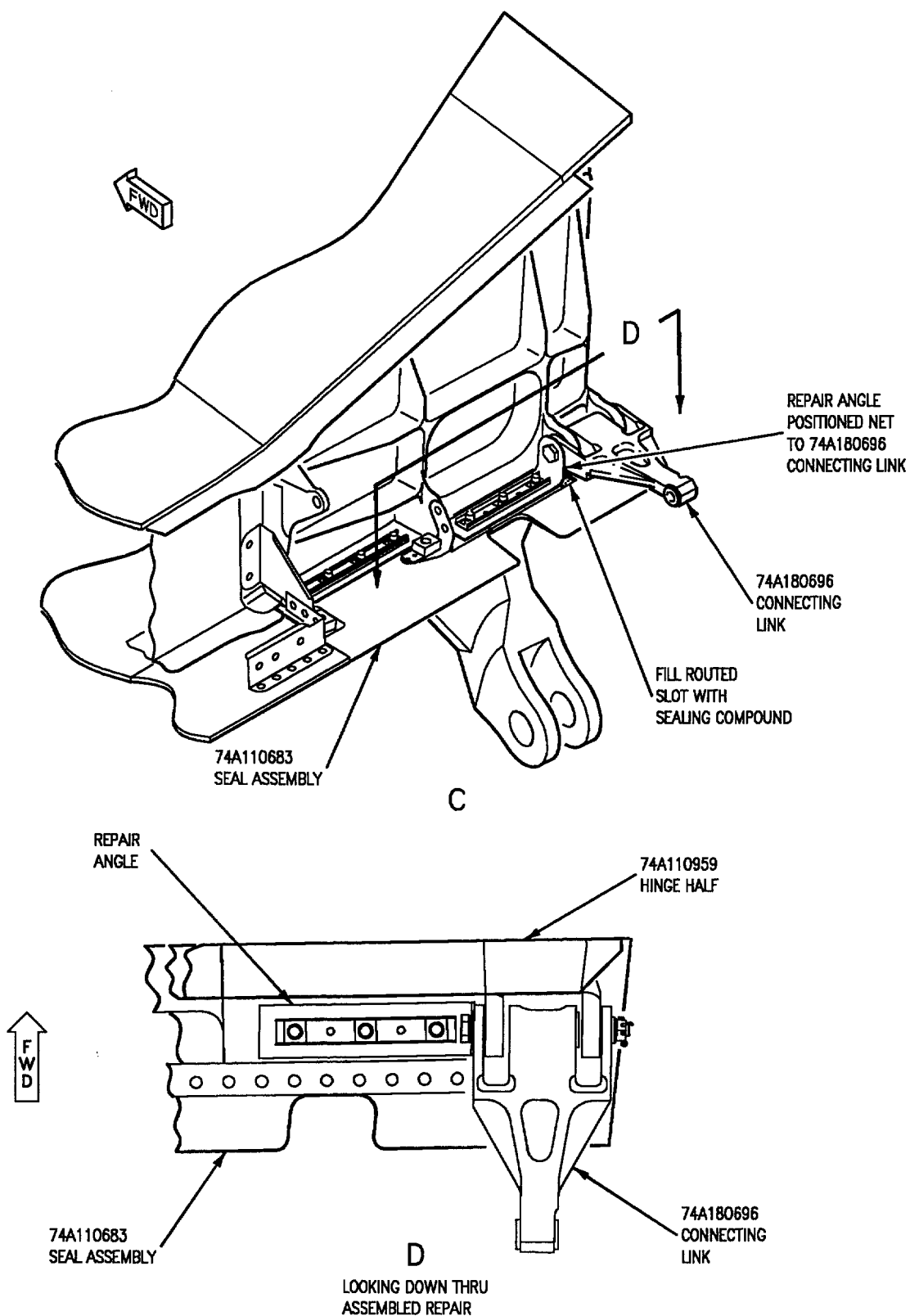
04001301

Figure 13. 74A110959 Inboard Trailing Edge Flap Hinge Half Cracked Flange Repair
(Sheet 1)



04001302

Figure 13. 74A110959 Inboard Trailing Edge Flap Hinge Half Cracked Flange Repair (Sheet 2)



04001303

Figure 13. 74A110959 Inboard Trailing Edge Flap Hinge Half Cracked Flange Repair (Sheet 3)

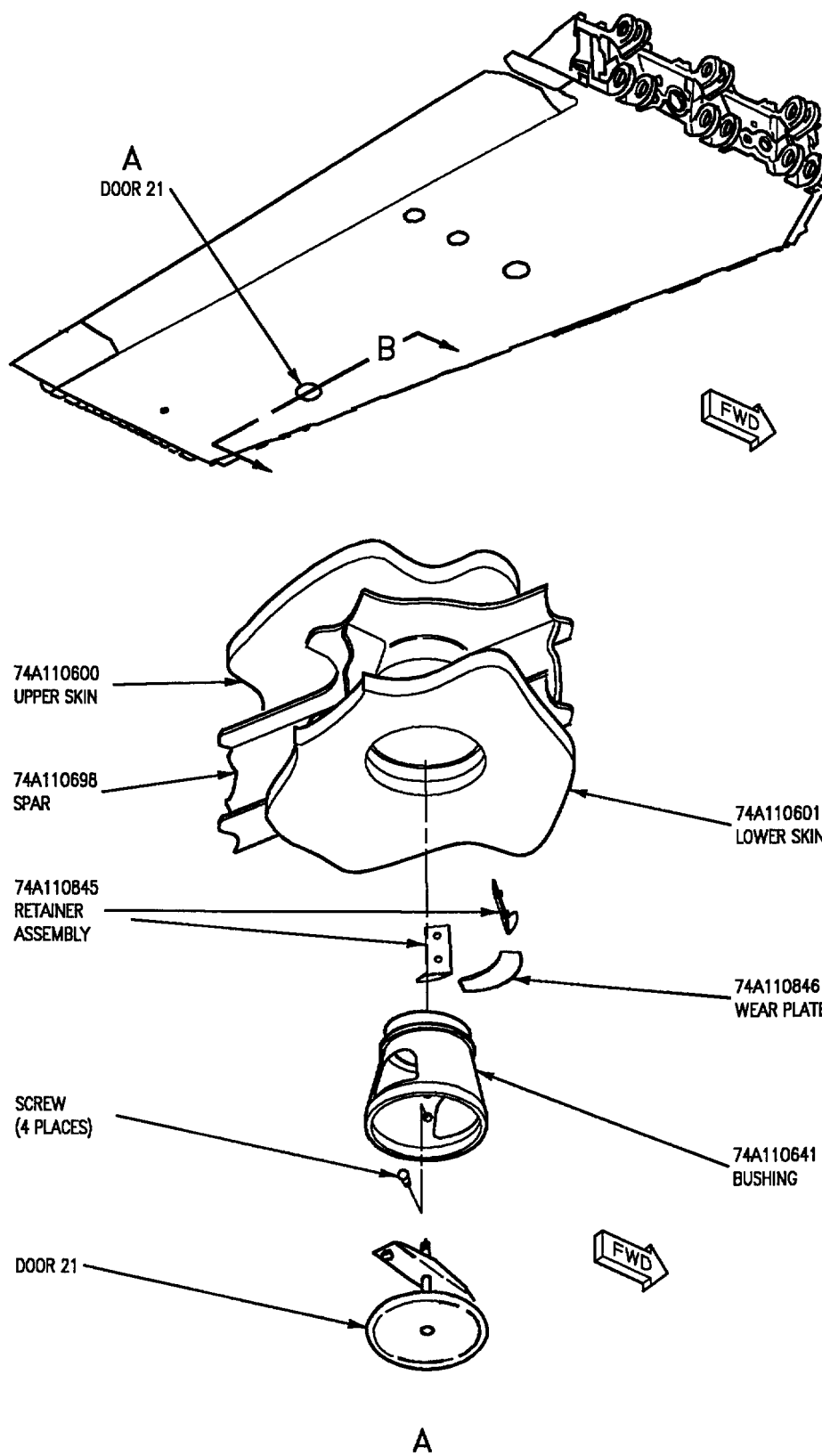


Figure 14. Outboard Pylon Bushing Alignment (Sheet 1)

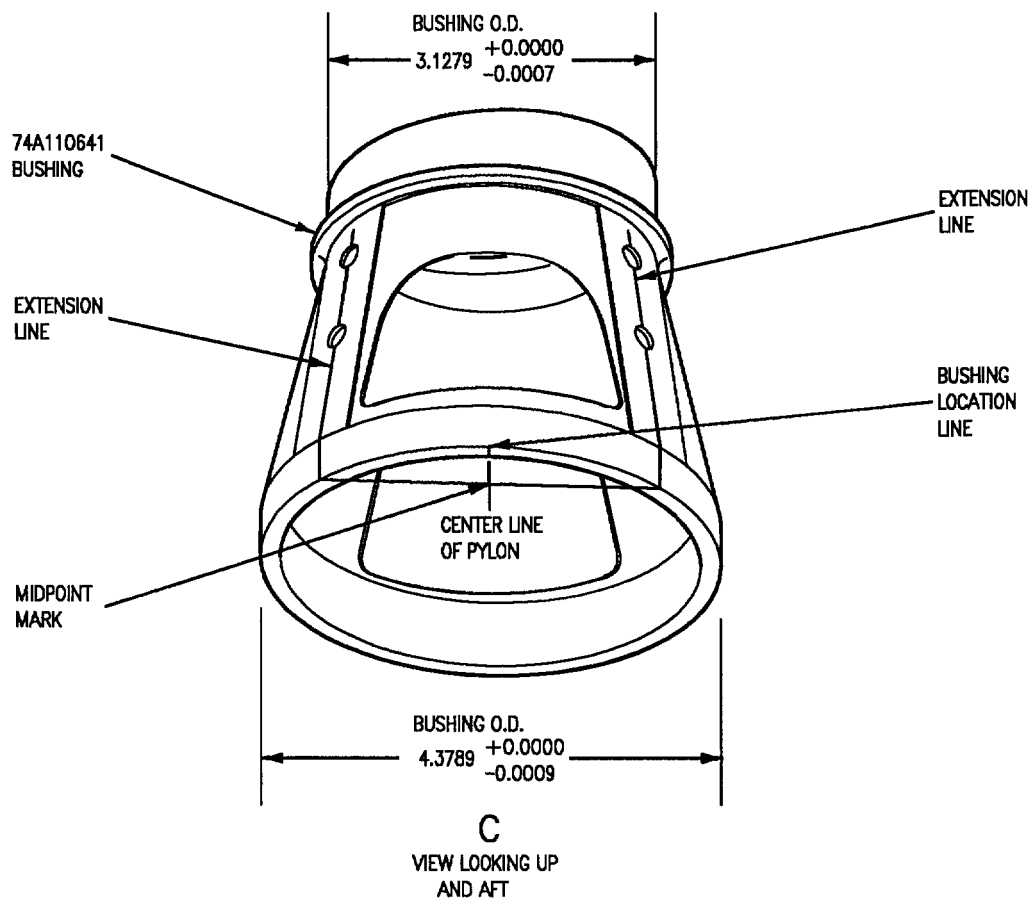
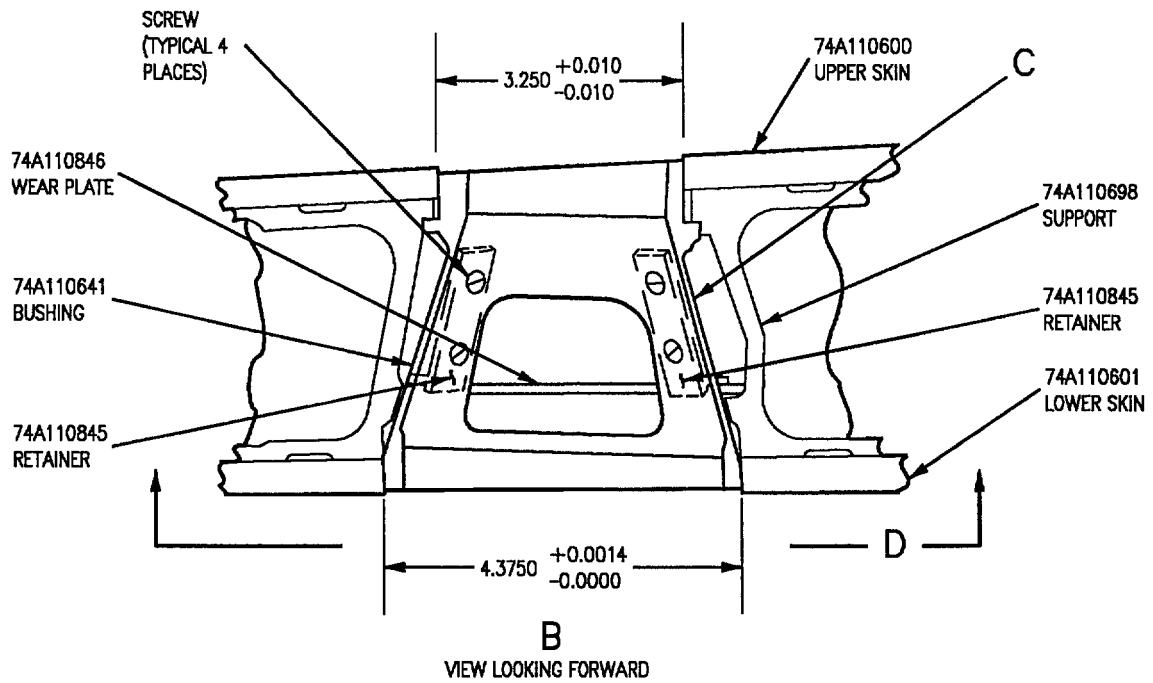
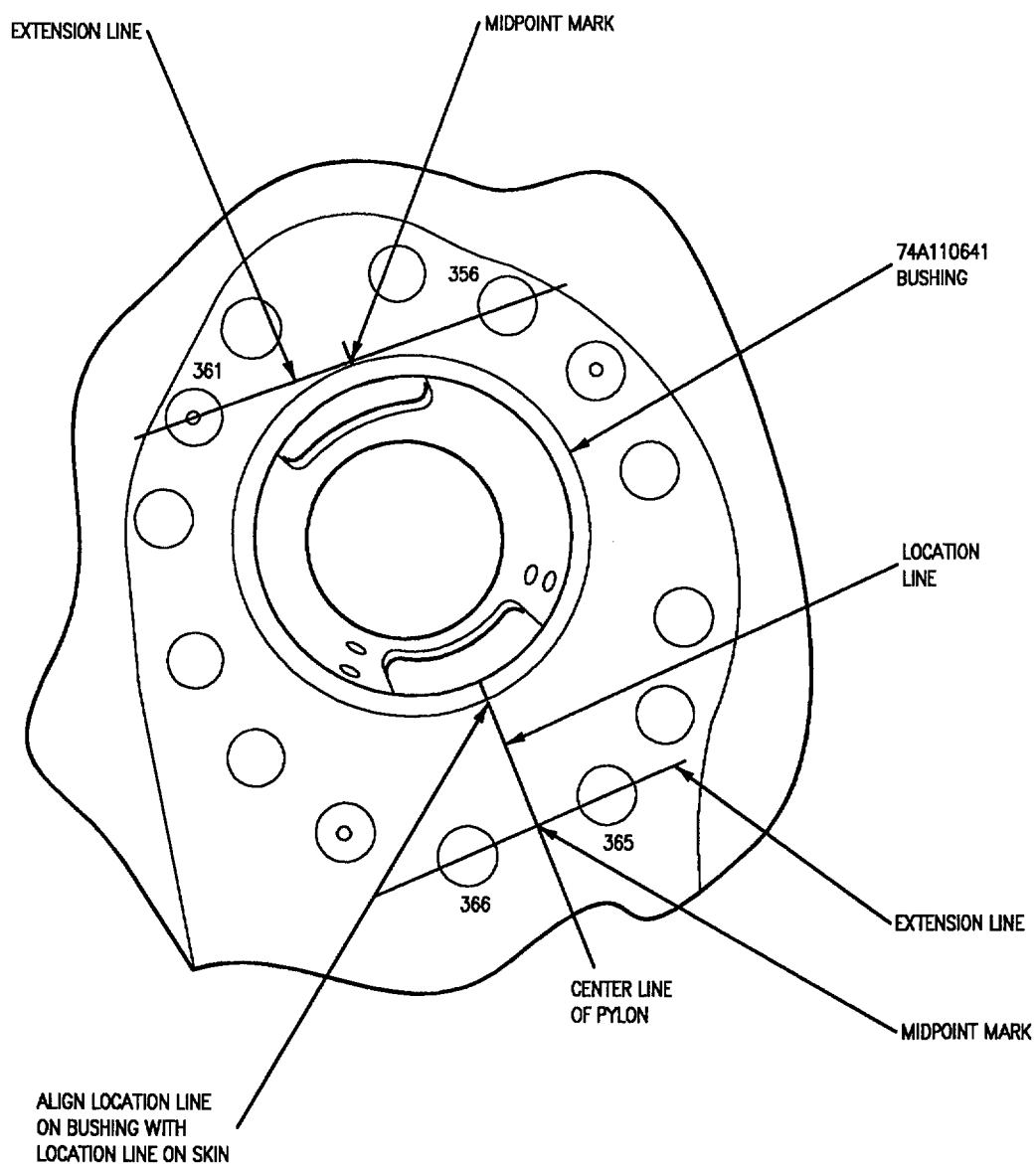


Figure 14. Outboard Pylon Bushing Alignment (Sheet 2)



D

Figure 14. Outboard Pylon Bushing Alignment (Sheet 3)

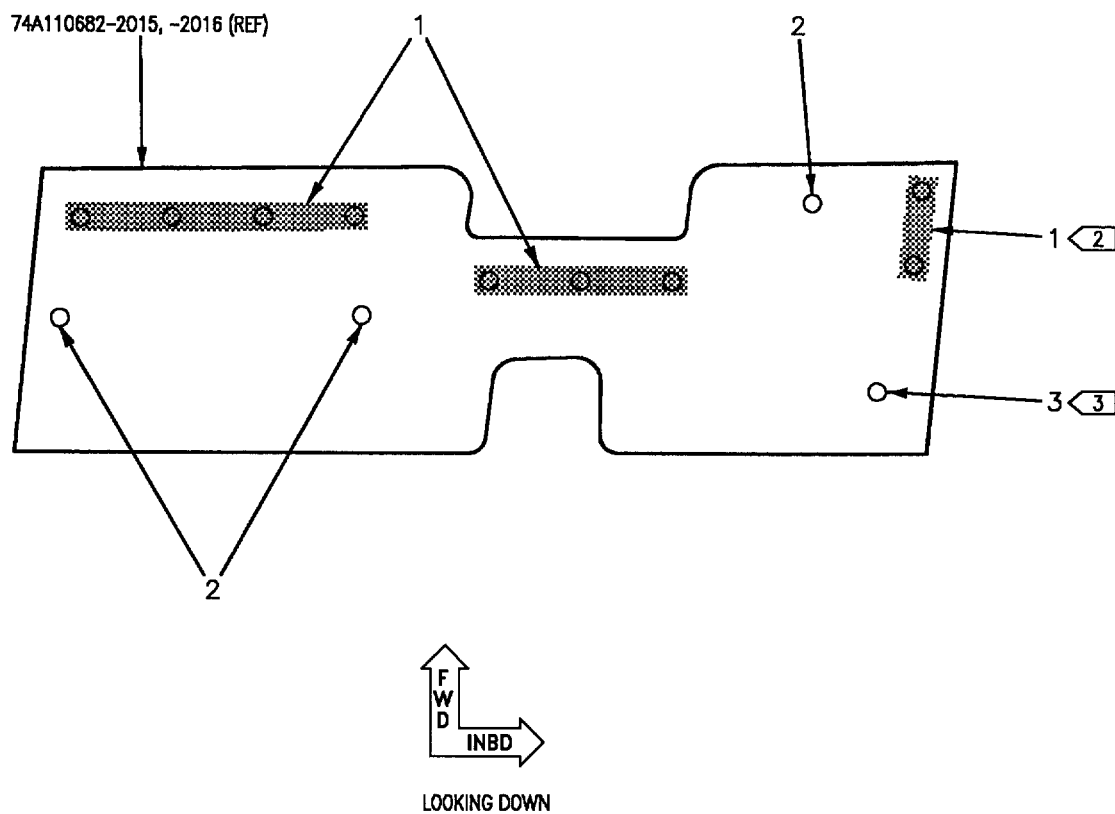


Figure 15. Seal (74A110682) Replacement (Sheet 1)







IDX NO	EFT		Nomenclature	Part Number
1			Gang Channel	G1209312-4-12
2			Plate Nut	F14427-2-4
3			Washer Nut	AN960C416 NAS129124M
LEGEND				
 Hole diameter is 0.250 +0.006 -0.000.				
 161353 thru 161708.				
 161709 and Up.				

Figure 15. Seal (74A110682) Replacement (Sheet 2)

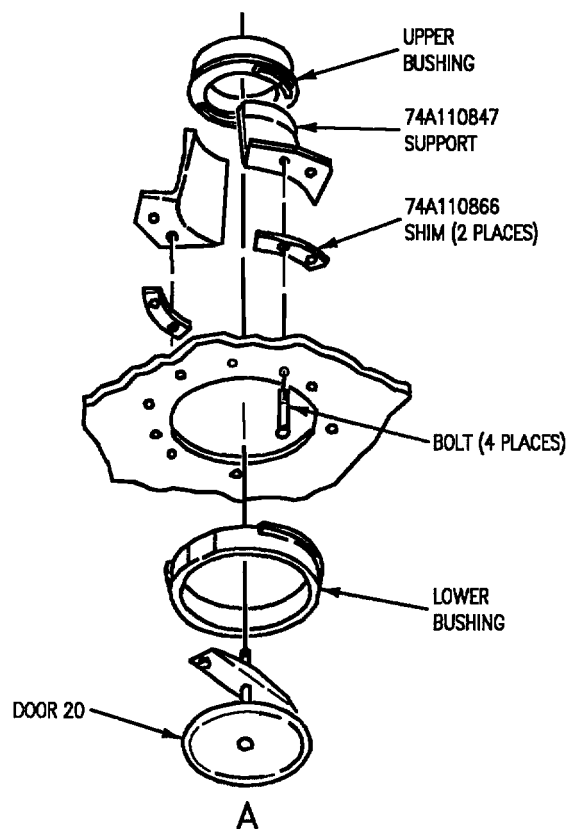
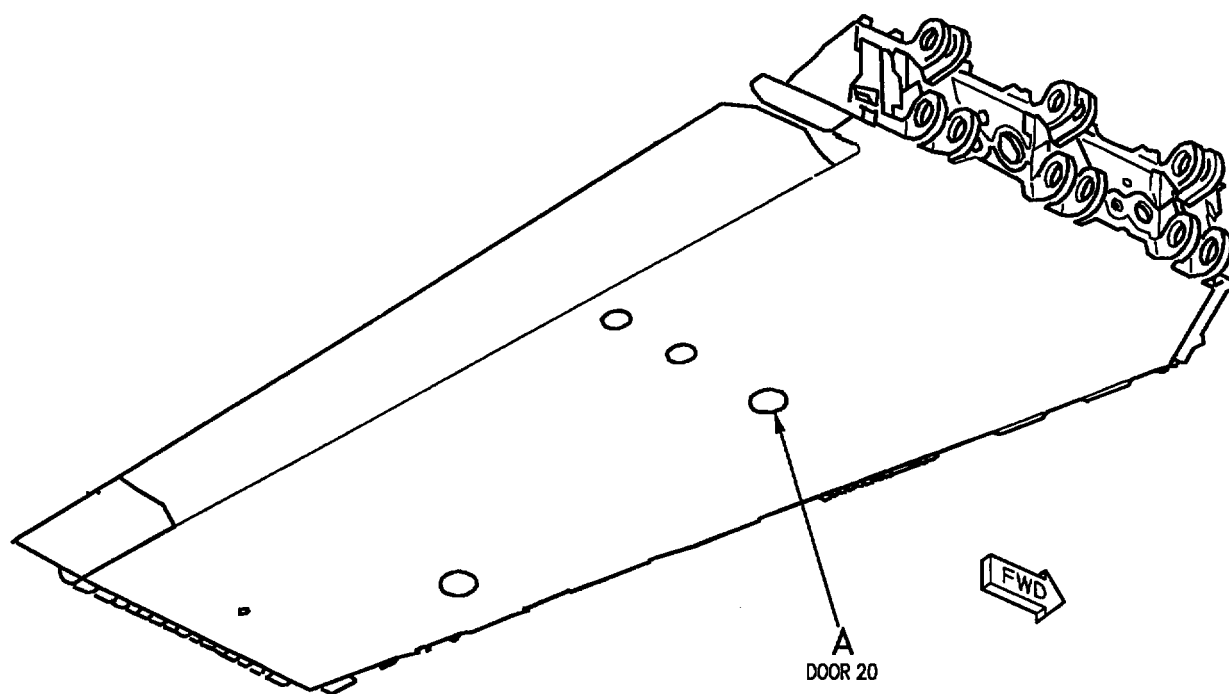
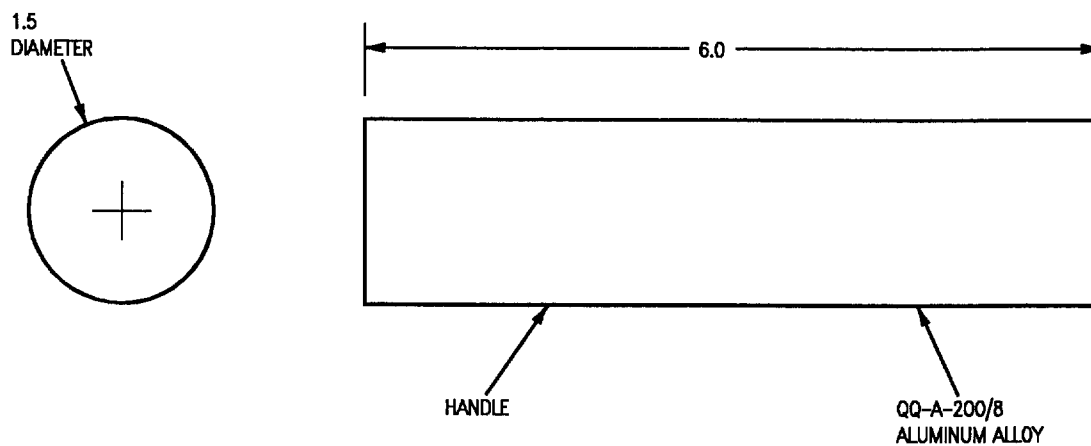
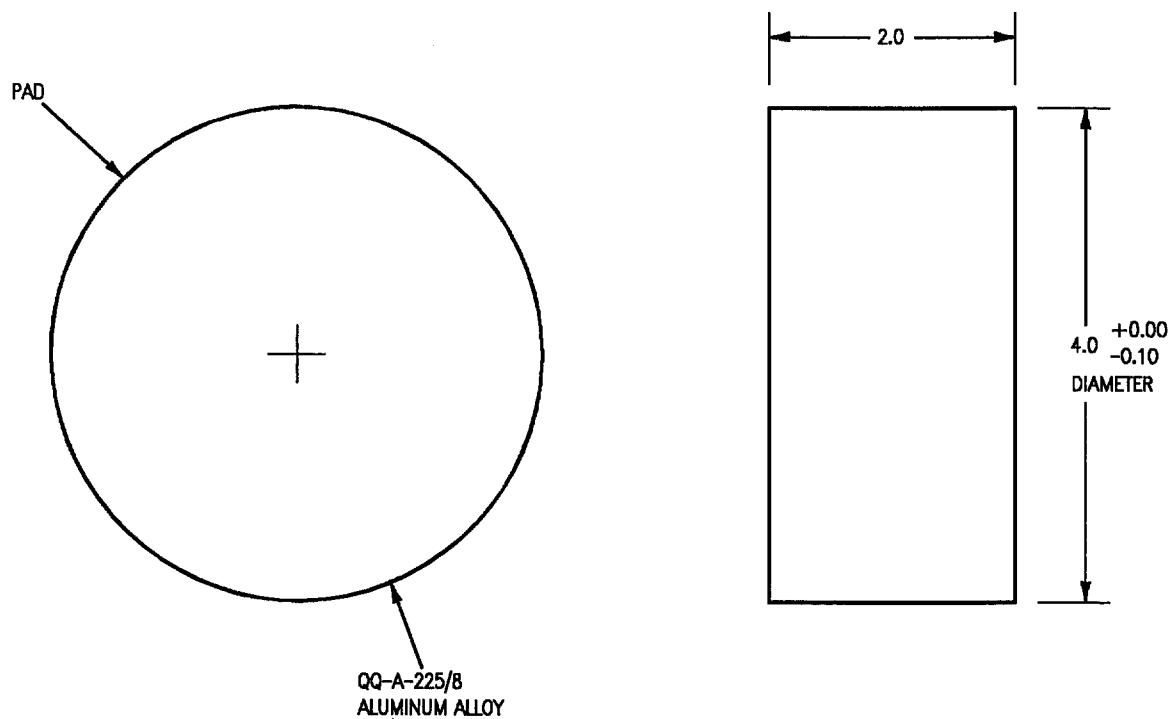


Figure 16. Inboard Pylon Lower Bushing Removal (Sheet 1)



B

Figure 16. Inboard Pylon Lower Bushing Removal (Sheet 2)

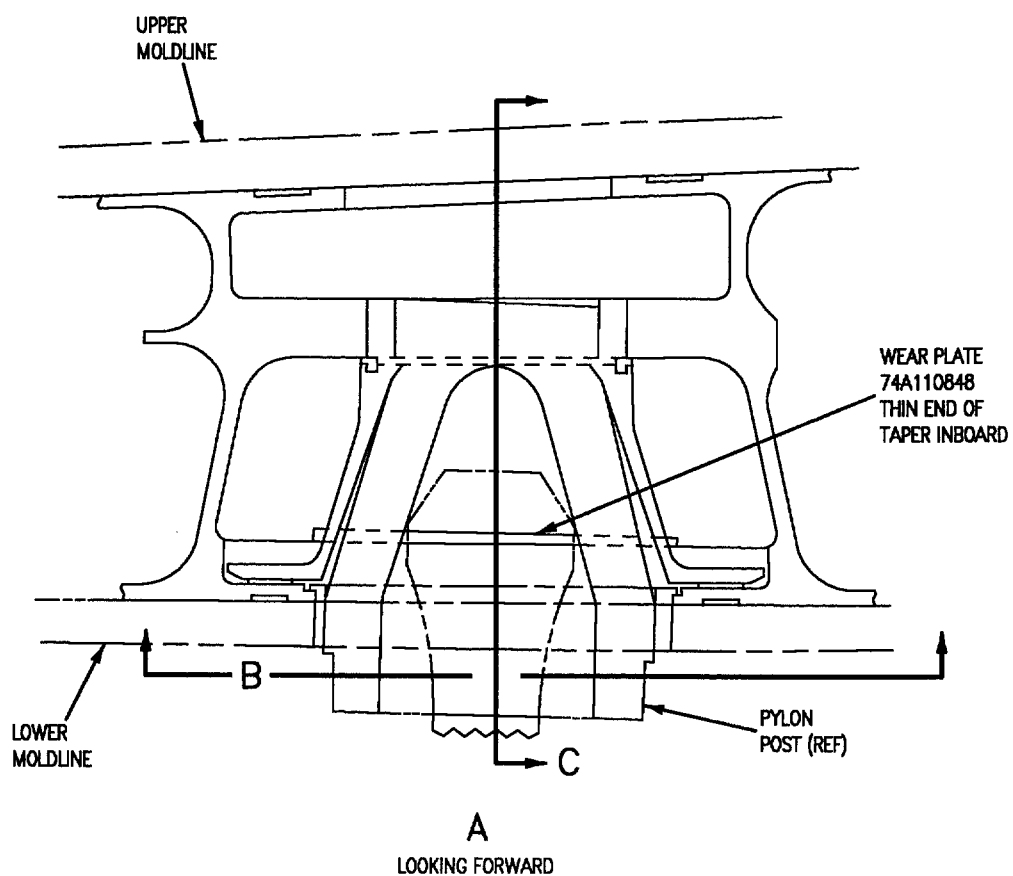
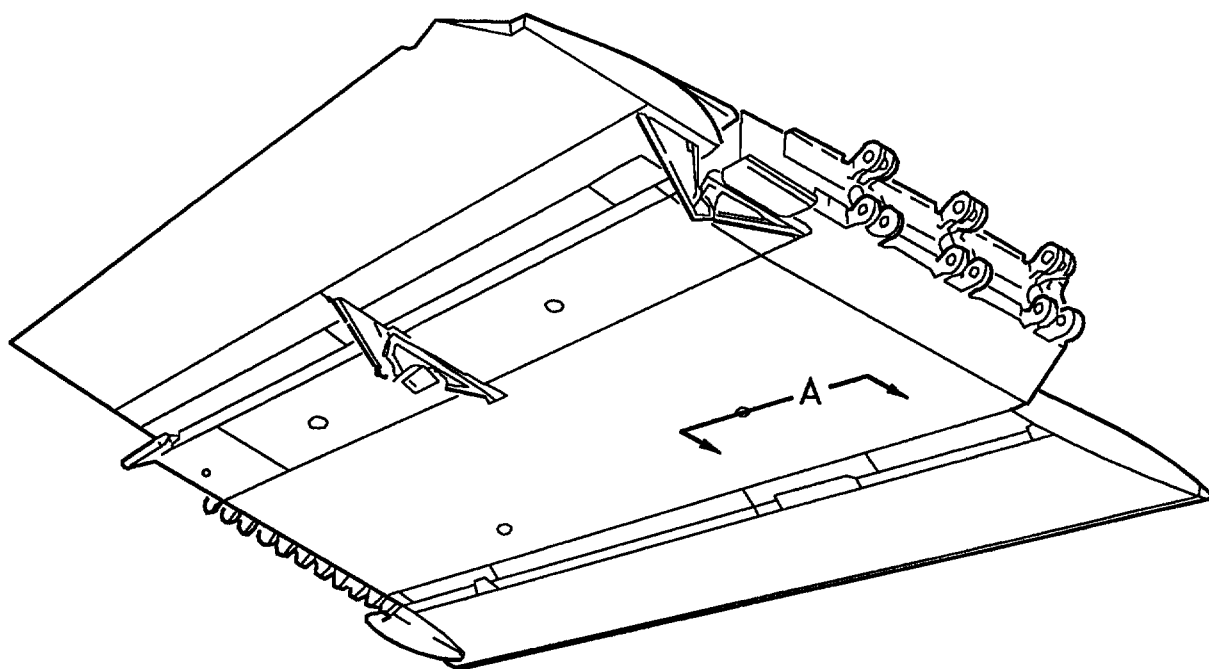


Figure 17. Inboard Pylon Wear Plate Replacement (Sheet 1)

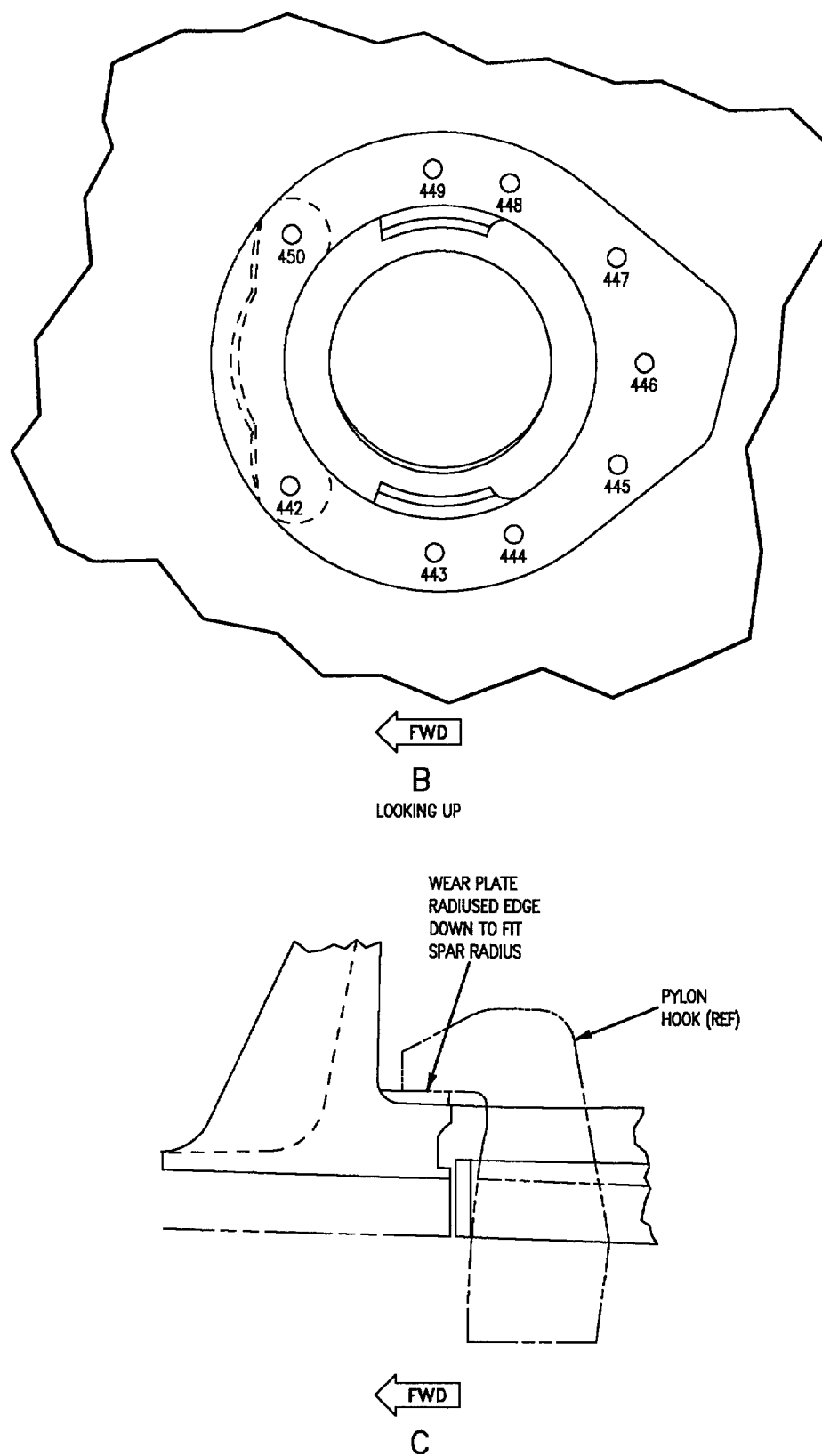
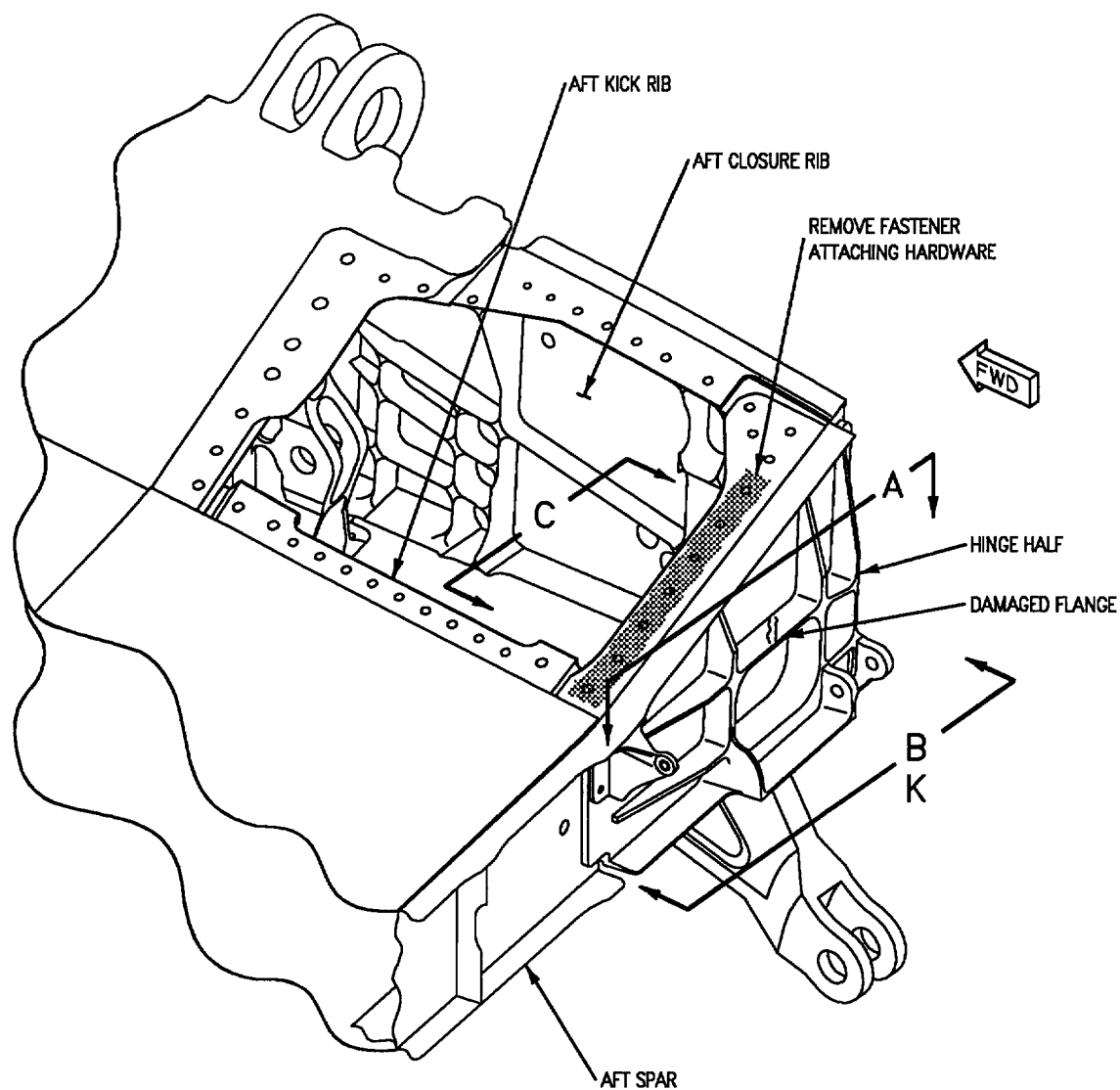
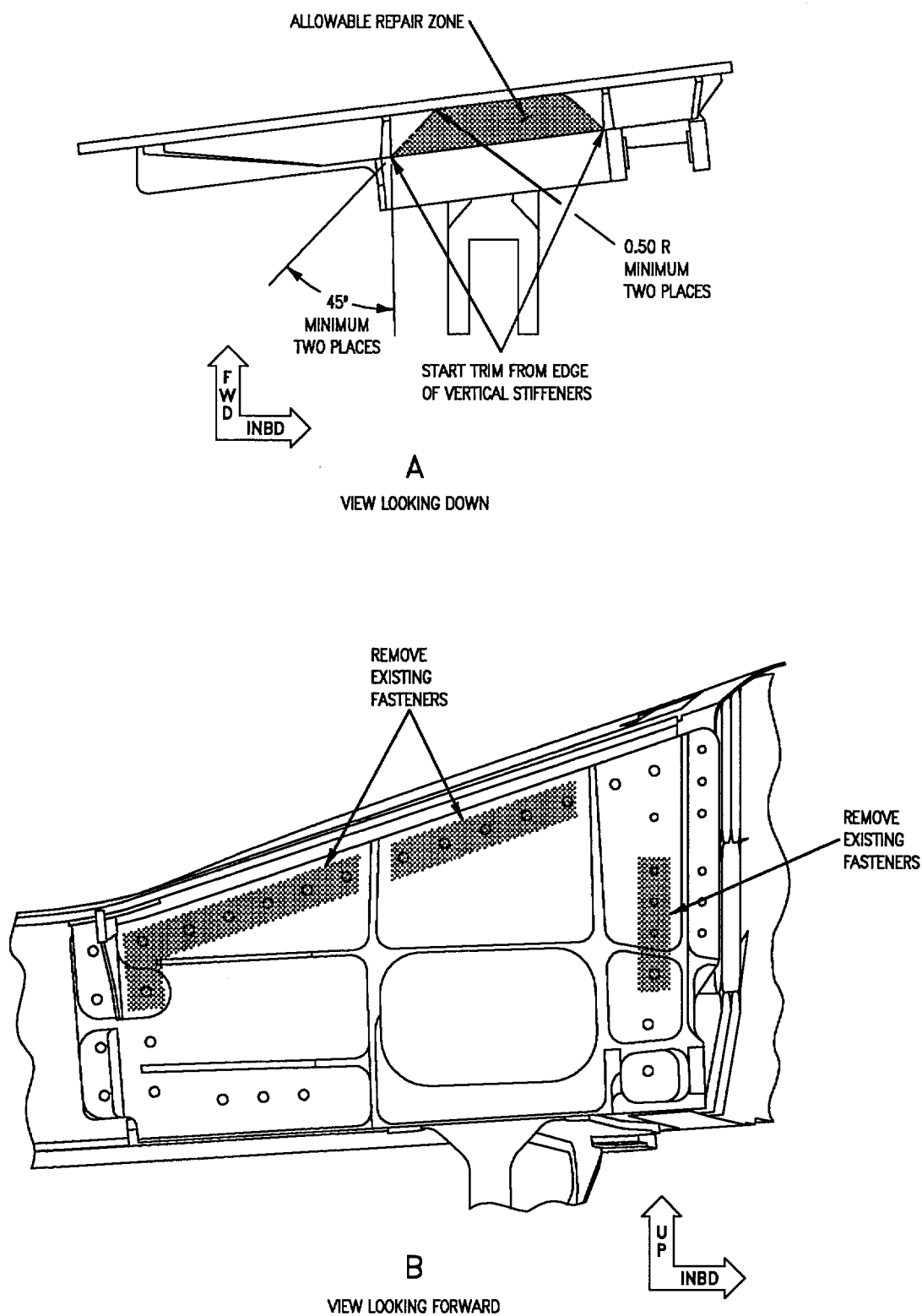


Figure 17. Inboard Pylon Wear Plate Replacement (Sheet 2)



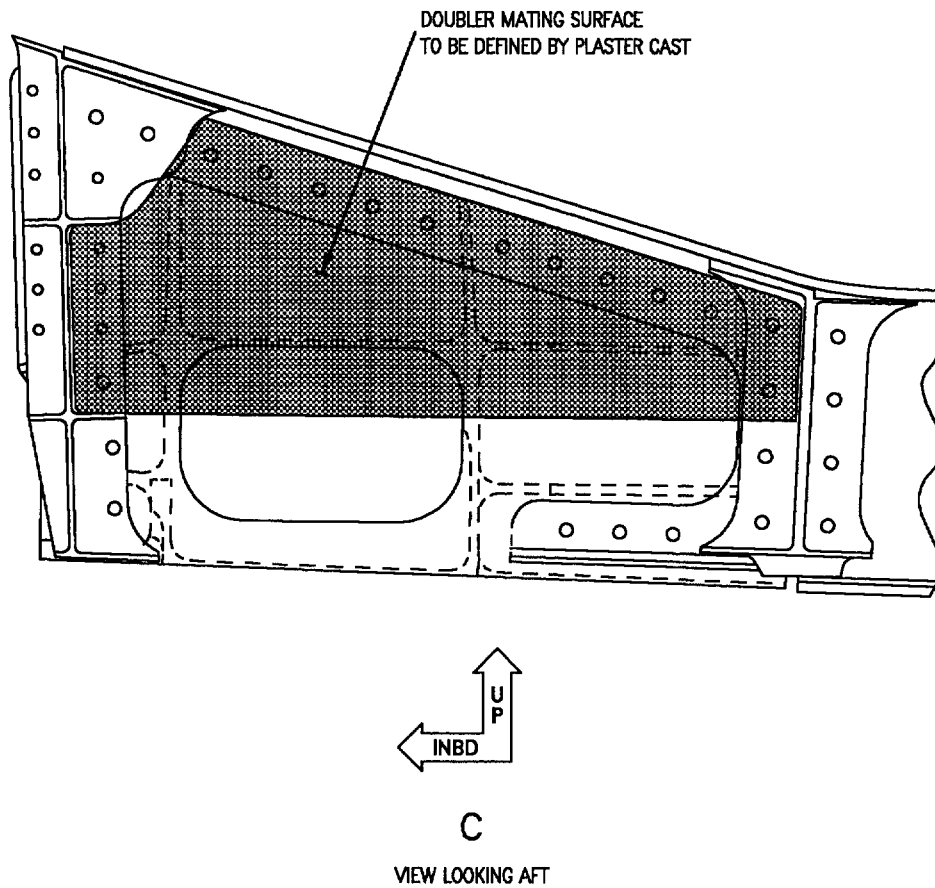
04001801

Figure 18. Repair of Damage to 74A110959 Hinge Half Caused By Trailing Edge Flap Actuator (Sheet 1)



04001802

Figure 18. Repair of Damage to 74A110959 Hinge Half Caused By Trailing Edge Flap Actuator (Sheet 2)



04001803

Figure 18. Repair of Damage to 74A110959 Hinge Half Caused By Trailing Edge Flap Actuator (Sheet 3)

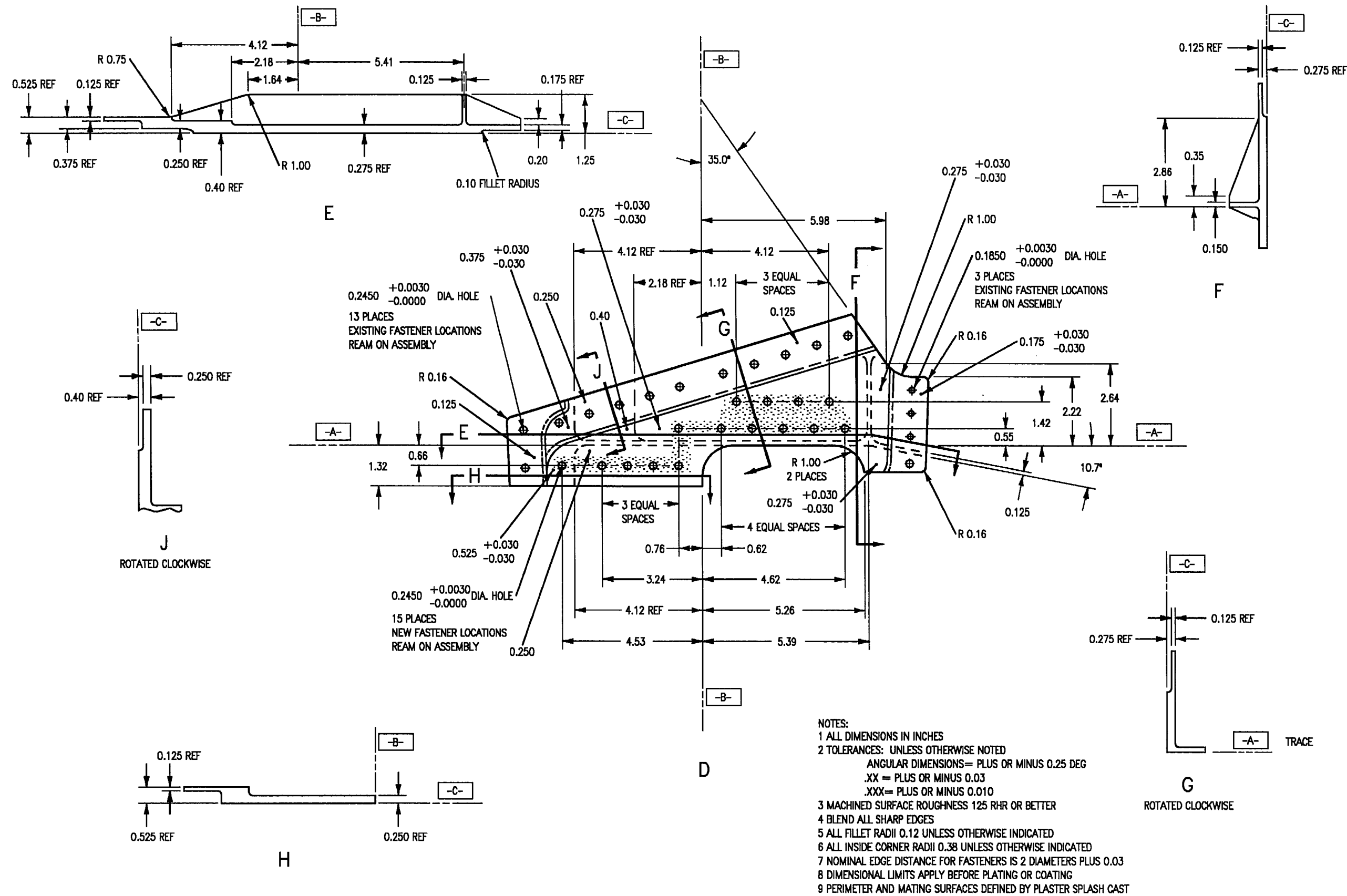
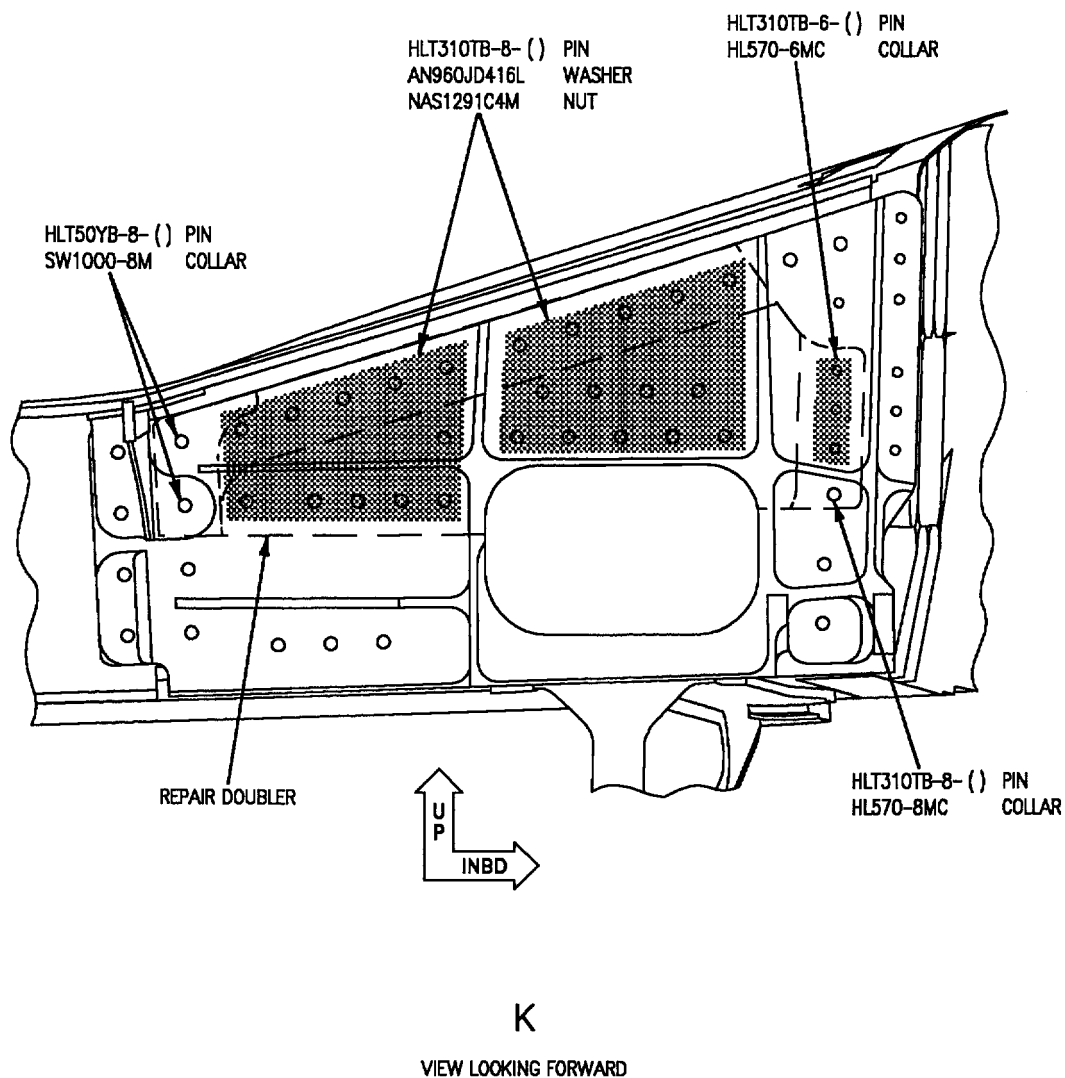


Figure 18. Repair of Damage to 74A110959 Hinge Half Caused By Trailing Edge Flap Actuator (Sheet 4)

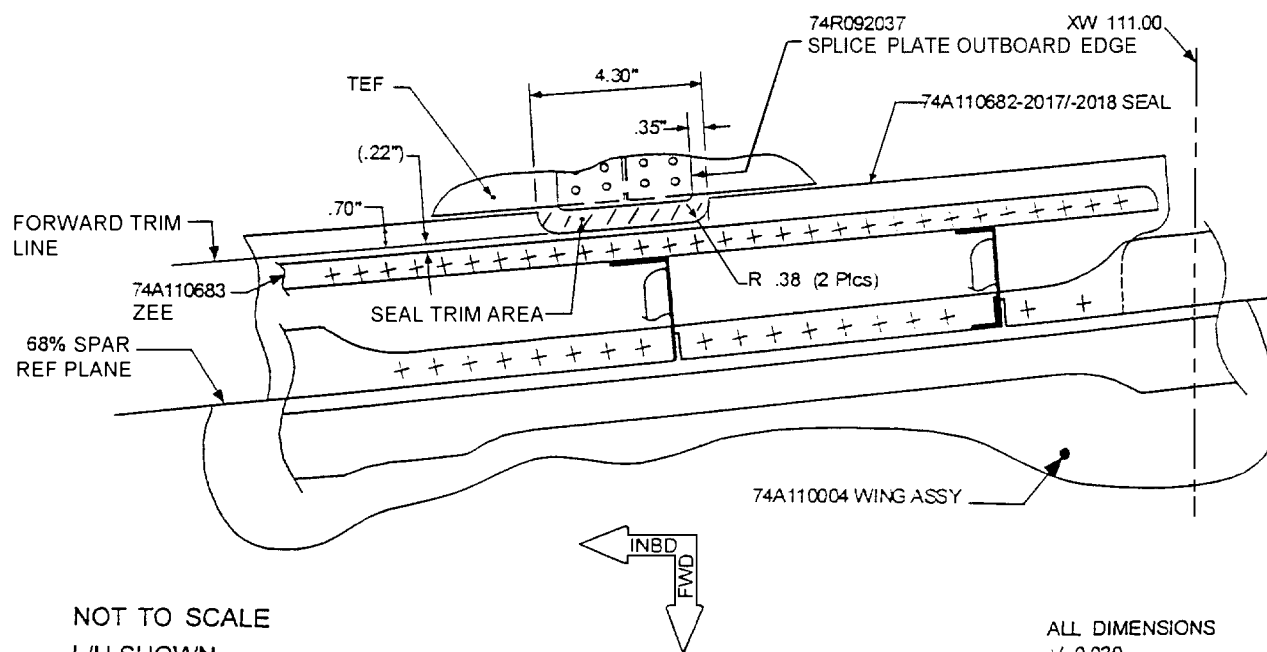


04001805

Figure 18. Repair of Damage to 74A110959 Hinge Half Caused By Trailing Edge Flap Actuator (Sheet 5)

NOTE

TO PROVIDE CLEARANCE FOR TRAILING EDGE
FLAPS THAT HAVE BEEN RETROFITTED PER
74R092037, IT IS ACCEPTABLE TO TRIM
74A110682-2017/2018 AS SHOWN.



74A110682 Seal Trimming Dimensions
View Looking Down at Lower TEF Seal

Figure 19. 74A110682 Seal Trimming Dimensions
View Looking Down at Lower TEF Seal

DEPOT MAINTENANCE

STRUCTURE REPAIR

INNER WING MAINTENANCE FIXTURE, RE174110004-1, -2

LOADING INNER WING

Reference Material

Lined Maintenance Access Doors A1-F18AC-LMM-010

Alphabetical Index

Subject	Page No.
Description	1
Inspection of Inner Wing Contour	2
Loading Inner Wing into Maintenance Fixture	1

Record of Applicable Technical Directives

None

1. DESCRIPTION.

2. The inner wing maintenance fixture (fixture) is used to evaluate and repair the inner wing (wing). The fixture contains locators for various details on the wing and supports to hold the wing in position during repair actions. The supports and locators also serve as gaging surfaces for damage inspection. The fixture requires accurate leveling and verification, with an alignment kit, before use and should be gage recycled with the inner wing alignment kit to verify fixture remains accurate.

3. LOADING INNER WING INTO MAINTENANCE FIXTURE. See figure 1.

b. Install subassembly H on subassembly A using hand knob (detail 593), view A. Slide pin (detail 618) to retracted position.

c. Install subassembly J, 2 places, on subassembly A using hand knob (detail 593), view B. Slide pin (detail 618) to retracted position, 2 places.

d. Install inner wing hoist (subassembly K) to inner wing assembly:

(1) Align subassembly K with inner wing assembly.

(2) Position clamp blocks (details 821 and 822) over the outside of the forward and aft upper lugs, view C.

(3) Install pins (details 799 or T4), as applicable, through clamp blocks (details 821 and 822) and into wing lugs, view C. Pin (detail 799) reamed lug holes.

(4) Attach clamp blocks (details 821 and 822) to locators (details T9 and U1) on subassembly K using socket head cap screws (detail 824), 2 places each locator (details T9 and U1), view C.

(5) Remove doors 19 and 21 (A1-F18AC-LMM-010).

Support Equipment Required

None

Materials Required

None

a. Clear frame (subassembly A) of all removable details and set all adjustable details to retracted position.

(6) Insert pin (detail 803) through outboard pylon cover holes, view D.

(7) Slide pin (detail 802) onto pin (detail 803) and insert into lower pylon cover hole, view D.

(8) Secure pins (details 802 and 803) using washer (detail 801) and nut (detail 800), view D. Snug nut (detail 800) carefully.

e. Rotate sling and inner wing to vertical position by turning adjustment post (detail 791) using ratchet wrench (detail 777), view E.

f. Install locators (detail 659), 2 places, and locators (detail 660), 4 places, on lug frame (detail P3), view H.

g. Align upper and lower wing lugs with locators (detail 659 and 660), views F and H.

h. Install pins (details 654 or 768) through upper lugs and into locators (detail 659 and 660), and pins (detail 655 or 769) through lower lugs and into locators (detail 659 and 660), view F. Pins (detail 654 and 655) are for pinning pilot size holes, and pins (details 768 and 769) are for pinning wing lug bushing inside diameter.

i. Adjust wing into position, so pins (detail 654, 655, or 768, 769) will install, by turning hand knob (detail U2), view G.

j. Insert pins (detail 129), 3 places, into tooling holes in forward spar, views J and K. Adjustments to insert the pin (detail 129) are made using L-pins (detail 117) and socket head cap screws (detail 136).

k. Install aft spar locators (details 610 and 611) by attaching angle (detail 89) to subassembly A using hand knob (detail 593), views A and B.

l. Insert pins (detail 618), 3 places, into tooling holes in aft spar, views A and B. Adjustments to insert the pin (detail 618) are made using L-pins (detail 117) and socket head cap screws (detail 136).

m. Install locator (detail L1) on to subassembly A using L-pins (detail 242) 4 places, and hand knobs (detail 601) 4 places, view L.

n. Install subassemblies H and J onto locator (detail L1) using hand knobs (detail 601), view L.

o. Install locators (detail K1 and K2) onto locator (detail L1) using hand knobs (detail 601) view L.

p. Insert pins (detail 214 And 215) into tooling holes in wing fold rib, view L. Adjustments to insert the pins (details 214 and 215) are made using L-pins (detail 117) and socket head cap screws (detail 136).

4. INSPECTION OF INNER WING CONTOUR. See figure 2.

Support Equipment Required

None

Materials Required

None

a. Inspect gap between forward spar and locators (details K3, K4, and K5) using a 0.125 thickness gage, view A.

b. Inspect gap between forward spar and locator (detail K8) using a 0.250 thickness gage, view C.

c. Attach locators (detail J8), 3 places, to subassembly A using hand knobs (detail 390), view E.

d. Inspect gap between aft spar and locator (detail J8), 3 places, using a 0.125 thickness gage, view E.

e. Attach locators (details K1 and K2) to locator (detail L1) using hand knobs (detail 601), view G.

f. Inspect gap between wing fold rib and locators (details K1 and K2) using a 0.125 thickness gage, view G.

g. For right side wing only; attach locator (detail R6) to lug frame (detail P3) using hand knobs (detail 390), 2 places, view K.

(1) Install L-pins (detail 117), 2 places, into angles (details R5 and S3) before inspecting gap for gearbox support assembly, 74A110924, view K.

(2) Inspect gap between pin (detail 733) and block (detail 730) using a 0.250 thickness gage, view L.

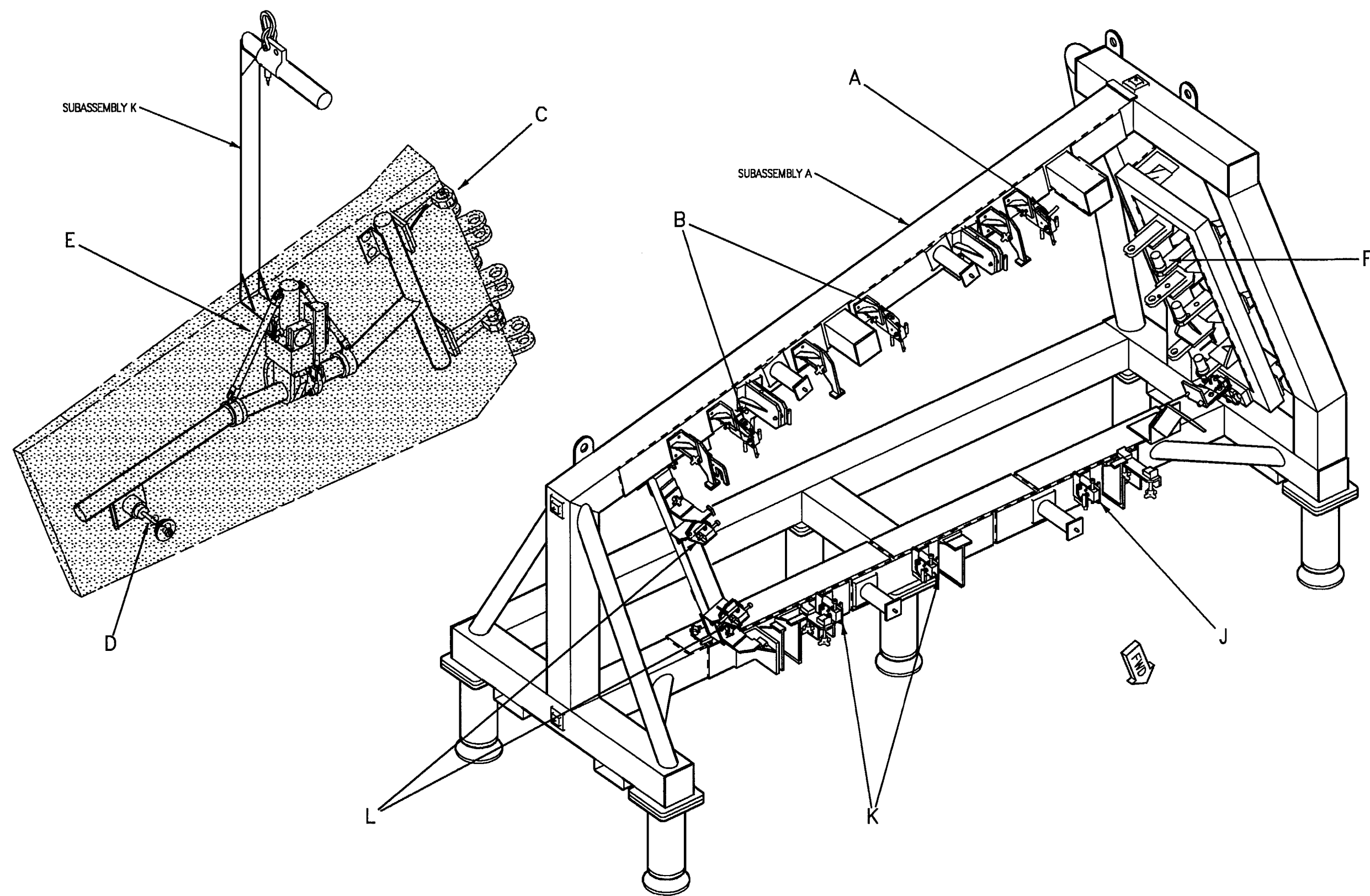


Figure 1. Loading Inner Wing into Maintenance Fixture (Sheet 1)

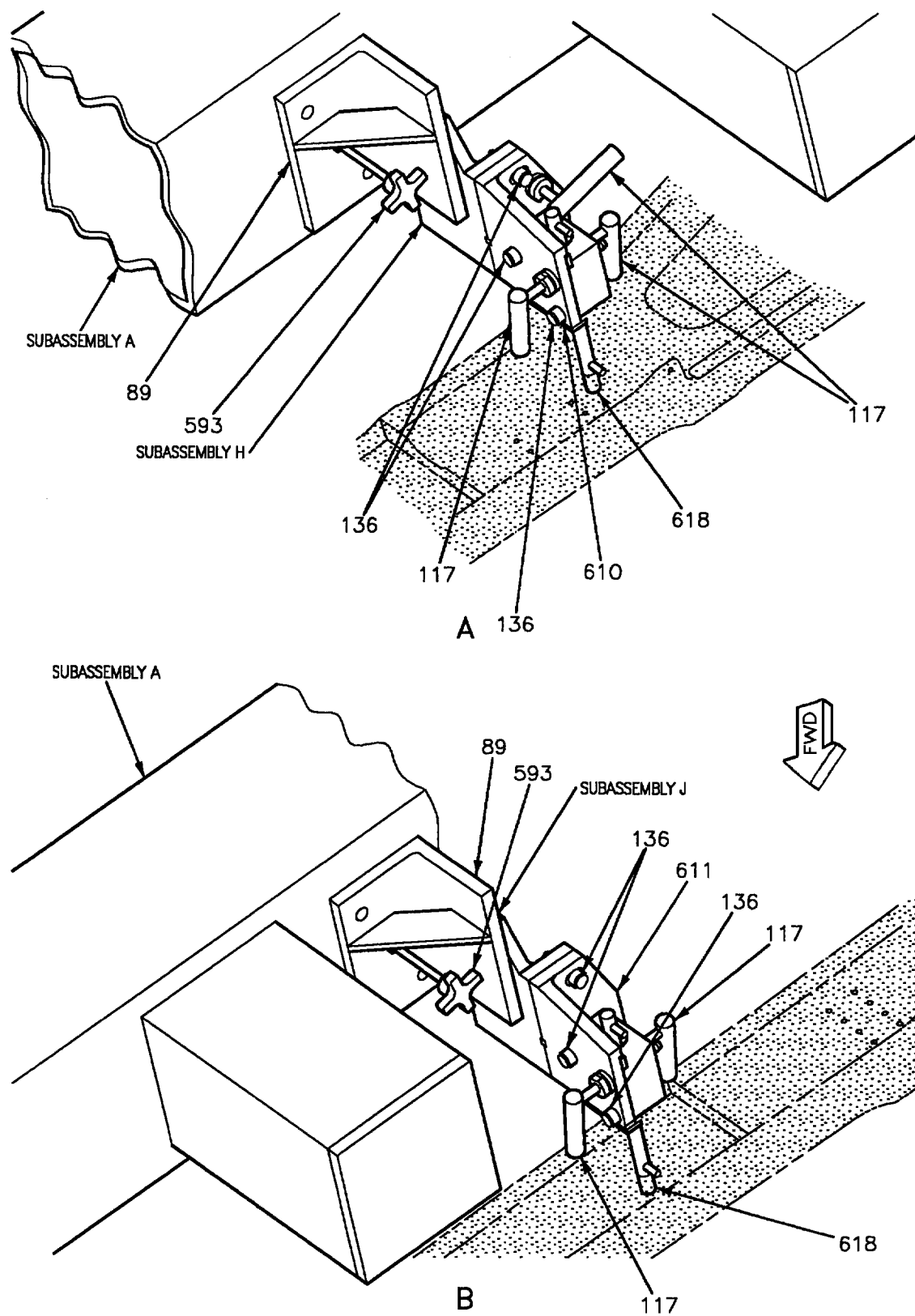


Figure 1. Loading Inner Wing into Maintenance Fixture (Sheet 2)

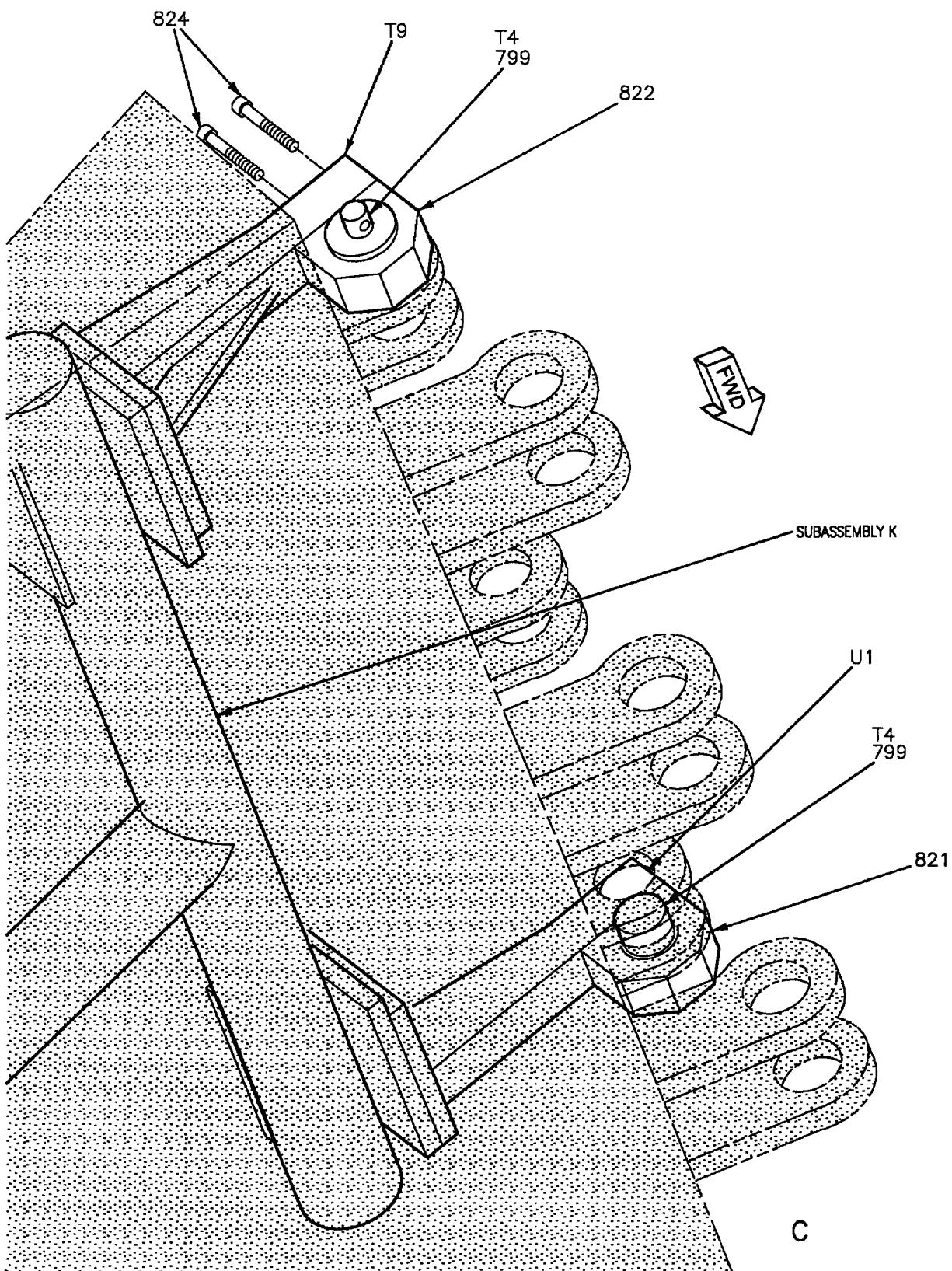


Figure 1. Loading Inner Wing into Maintenance Fixture (Sheet 3)

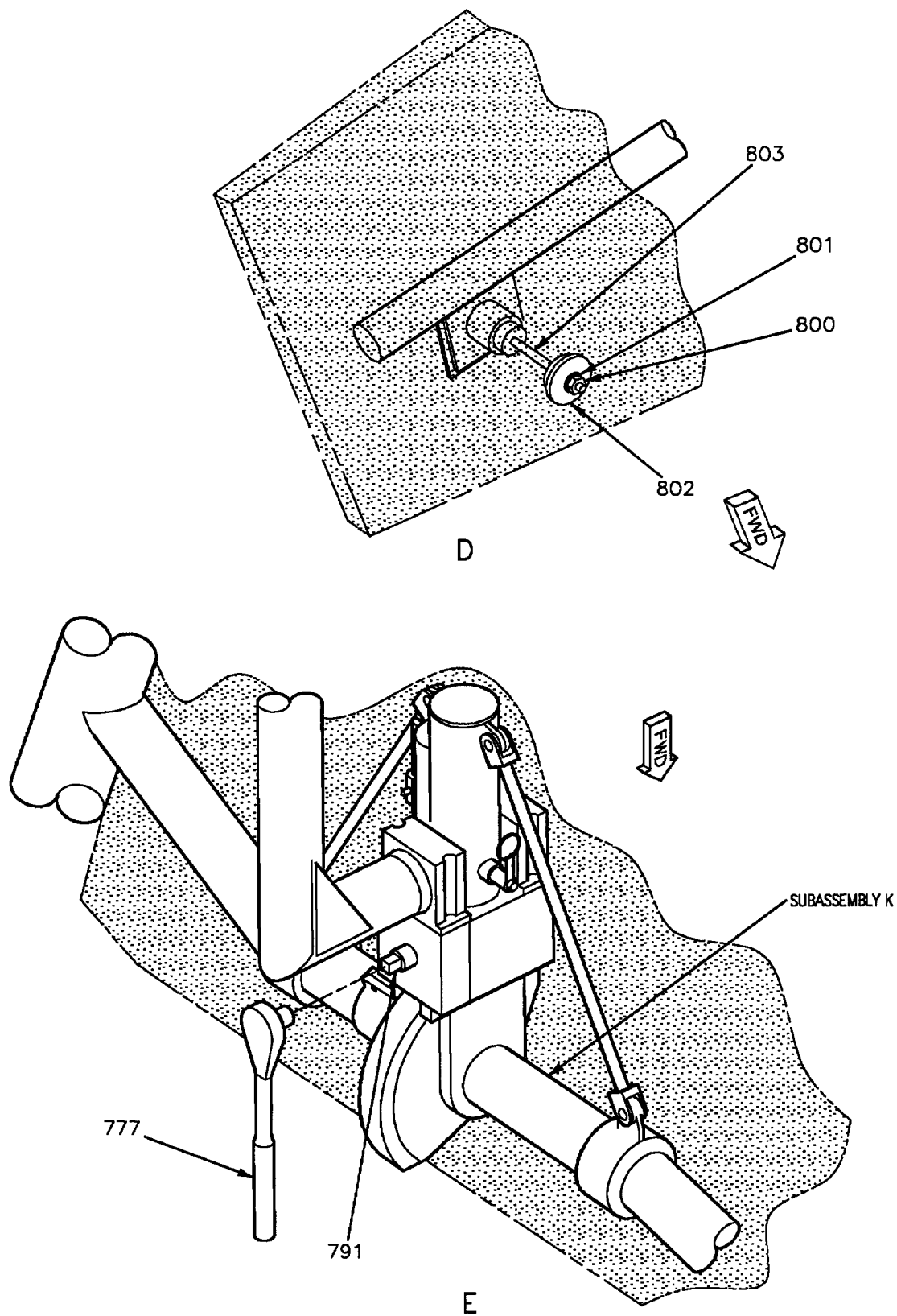


Figure 1. Loading Inner Wing into Maintenance Fixture (Sheet 4)

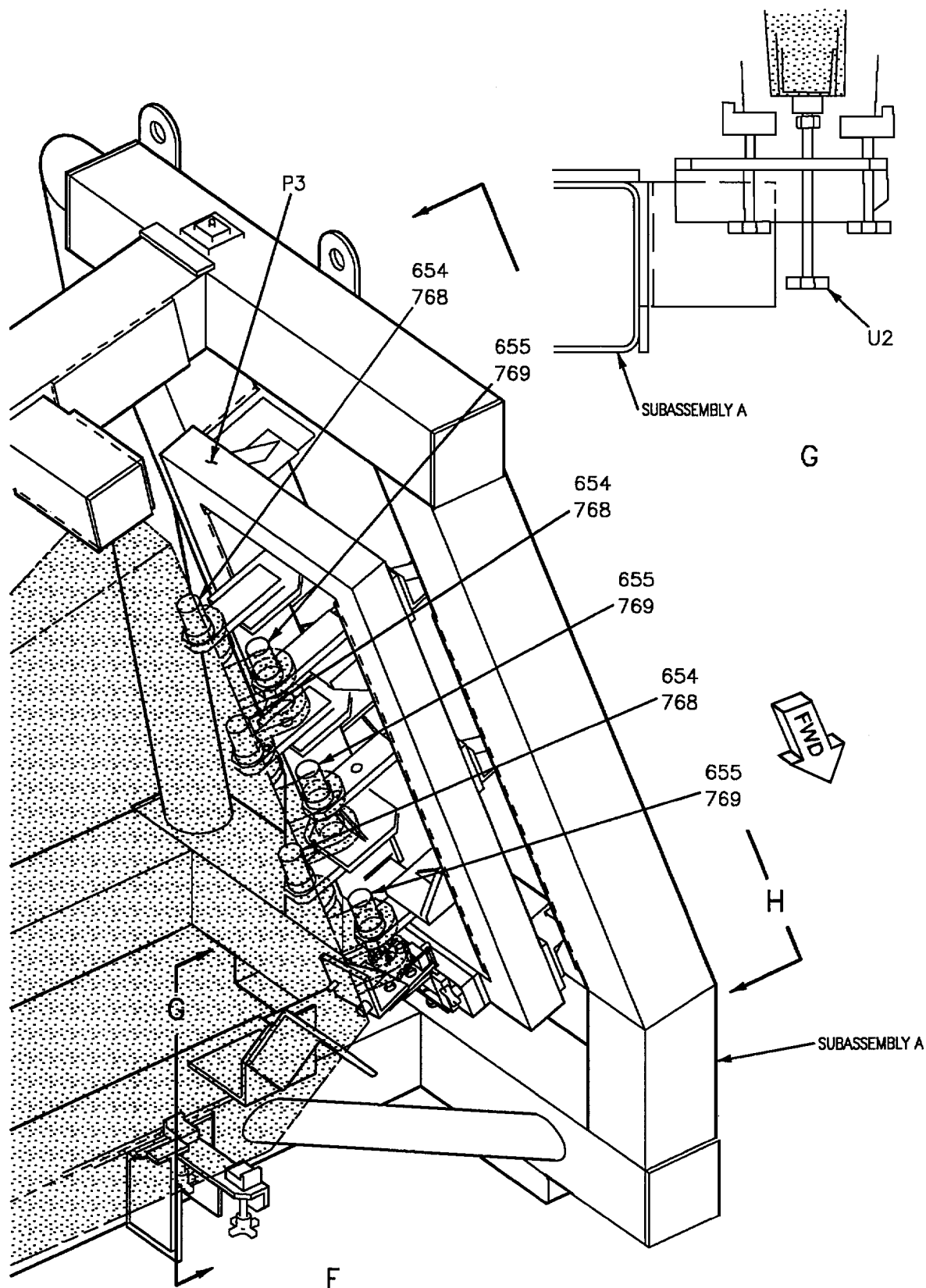


Figure 1. Loading Inner Wing into Maintenance Fixture (Sheet 5)

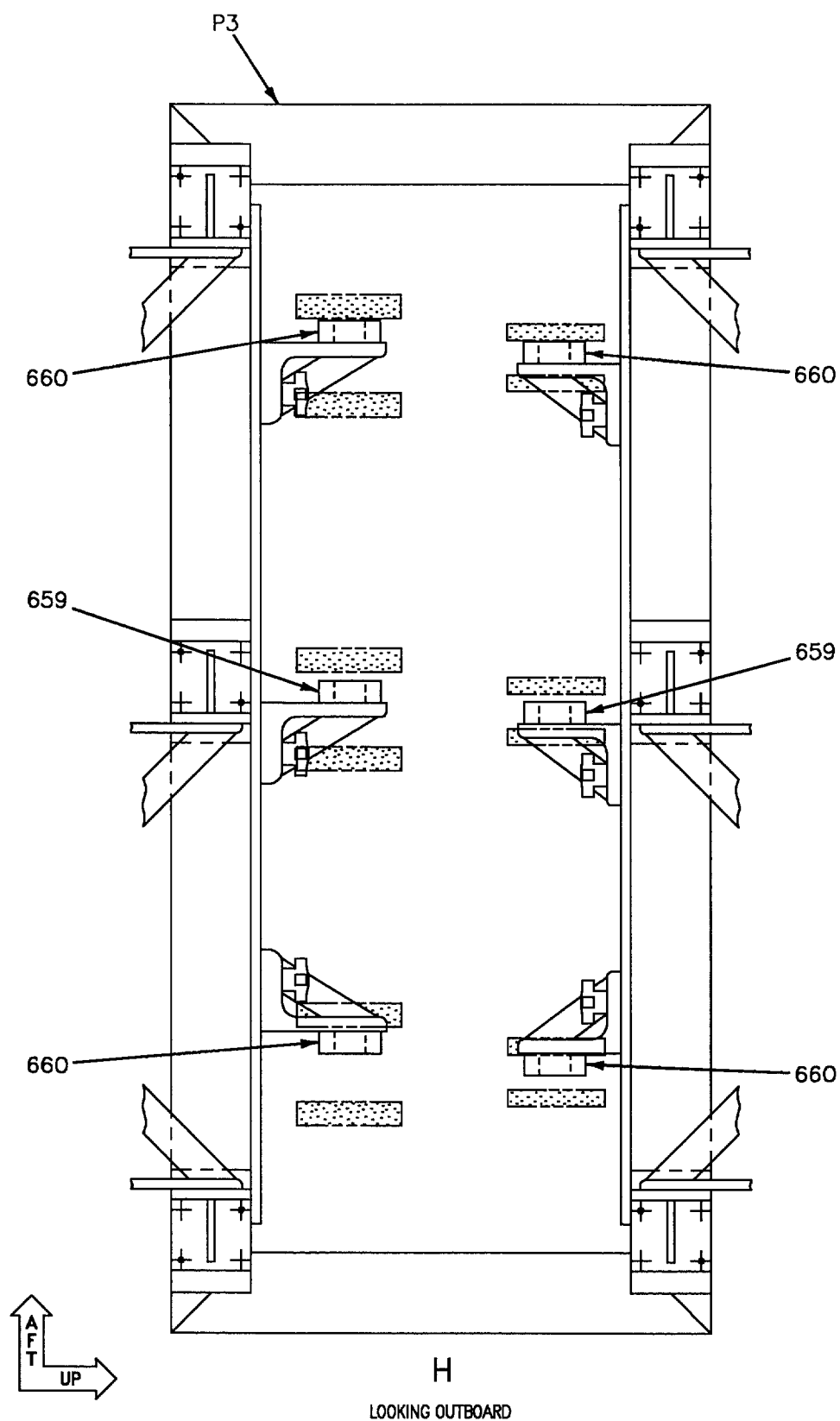


Figure 1. Loading Inner Wing into Maintenance Fixture (Sheet 6)

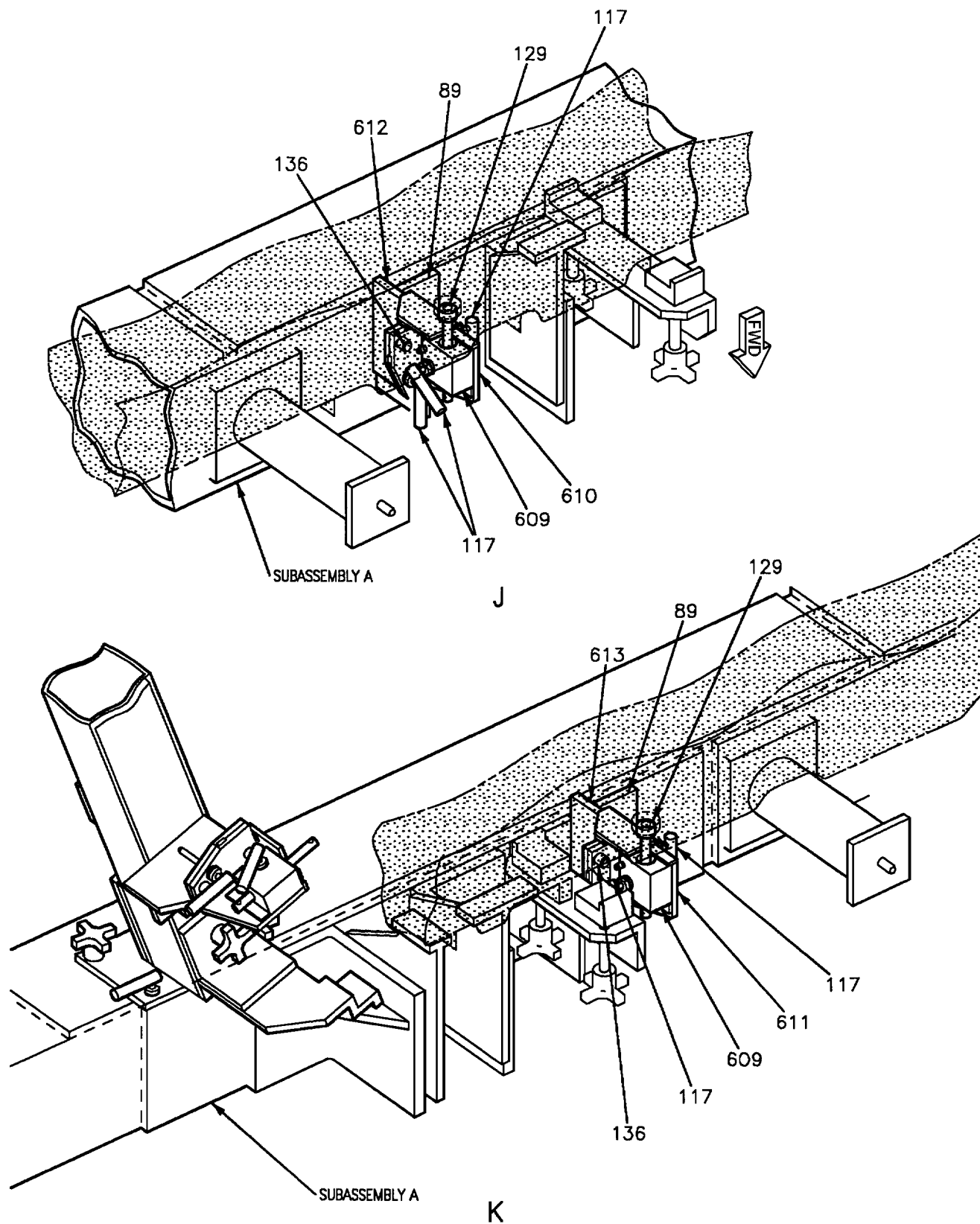


Figure 1. Loading Inner Wing into Maintenance Fixture (Sheet 7)

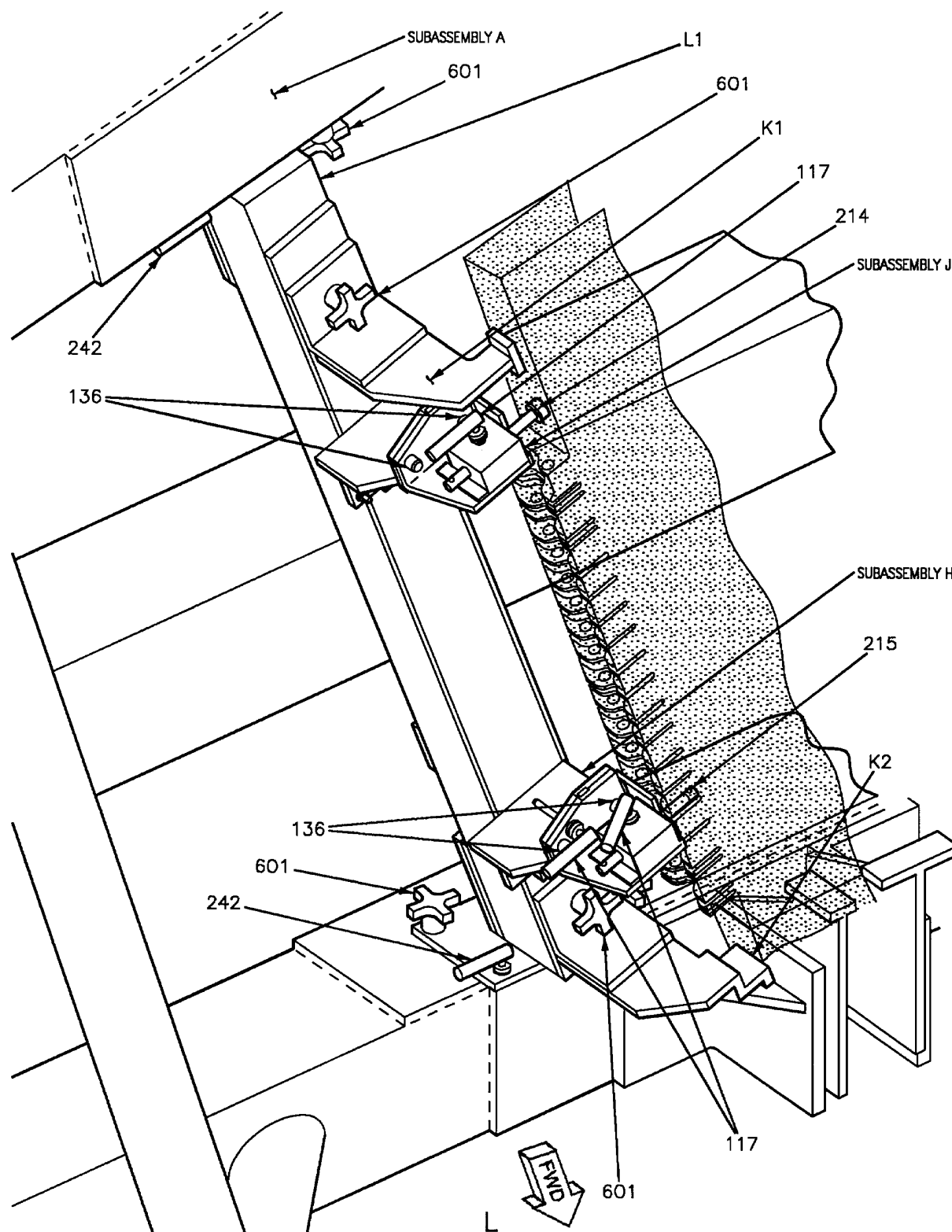


Figure 1. Loading Inner Wing into Maintenance Fixture (Sheet 8)

04010108

Detail No.	Name	Function
Subassembly A	Frame	Main support for holding wing and various details.
Subassembly H	Locator Assembly	Locates structure by pinning tooling holes.
Subassembly J	Locator Assembly	Locates structure by pinning tooling holes.
Subassembly K	Inner Wing Hoist	Lifts inner wing assembly for use with maintenance fixture.
K1, K2	Locator	Locates wing fold rib.
L1	Locator	Locates various details for locating wing fold rib.
P3	Lug Frame	Locate wing attach lugs.
T4	Pin	Installs into reamed attach lugs through clamp blocks.
T9, U1	Locator	Locates clamp blocks to subassembly K.
U2	Hand Knob	Adjusts wing for pinning lugs.
89	Angle	Supports details for locating aft spar.
117	L-Pin	Locates and installs various details on fixture.
129	Pin	Installs in forward spar tooling holes for location.
136	Socket Head Cap Screw	Secures various details on fixture.
214, 215	Pin	Installs in wing fold rib tooling holes for location.
242	L-Pin	Attaches locator (detail L1) to subassembly A.
593	Hand Knob	Attaches angles (detail 89) to subassembly A.
601	Hand Knob	Secures various details to fixture.
609	Locator Block	Part of subassemblies H and J, locates pins in structure tooling holes.
610, 611	Locator	Locates details for pinning aft spar tooling holes.
612	Plate	Attaches subassembly H to fixture.
613	Plate	Attaches subassembly J to fixture.
618	Pin	Installs in aft spar tooling holes for location.
654	Pin	Pins upper lugs for pilot size hole.

Figure 1. Loading Inner Wing into Maintenance Fixture (Sheet 9)

Detail No.	Name	Function
655	Pin	Pins lower lugs for pilot size hole.
659, 660	Locator	Locates wing attach lugs.
768	Pin	Pins upper lugs for bushing inside diameter size hole.
769	Pin	Pins lower lugs for bushing inside diameter size hole.
777	Ratchet Wrench	Adjusts wing hoist to horizontal/vertical.
791	Adjustment Post	Attaches to wrench for adjusting wing hoist.
799	Pin	Installs into unreamed attach lugs through clamp blocks.
800	Nut	Secures pin (detail 802) to hold wing onto hoist.
801	Washer	Installs on pin (detail 803) under nut (detail 800).
802	Pin	Inserts in lower wing to secure wing to hoist.
803	Pin	Inserts through wing to attach wing to hoist.
821, 822	Clamp Block	Attaches hoist to wing lugs.
824	Socket Head Cap Screw	Attaches locators to subassembly K.

Figure 1. Loading Inner Wing into Maintenance Fixture (Sheet 10)

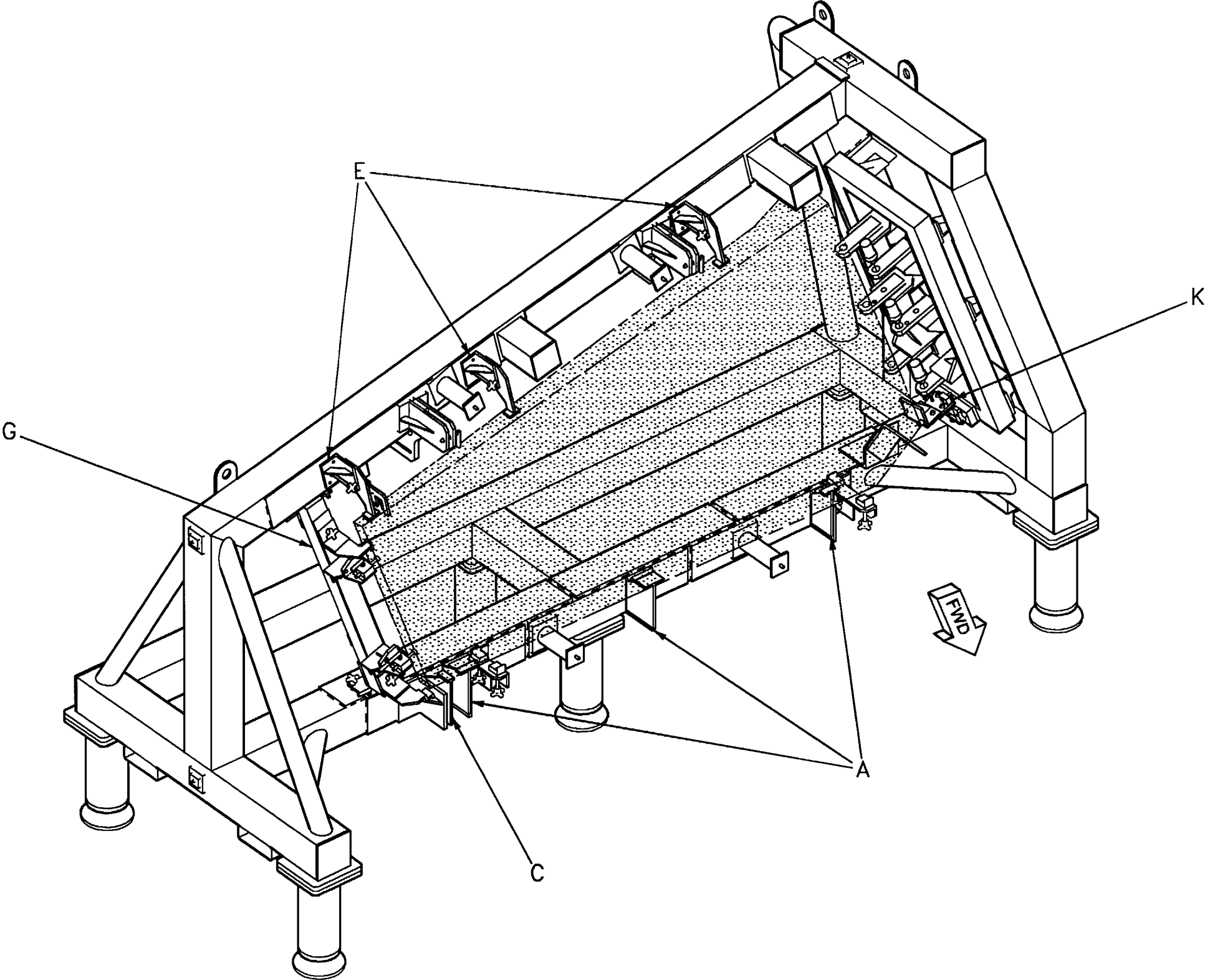


Figure 2. Inspection of Inner Wing Contour (Sheet 1)

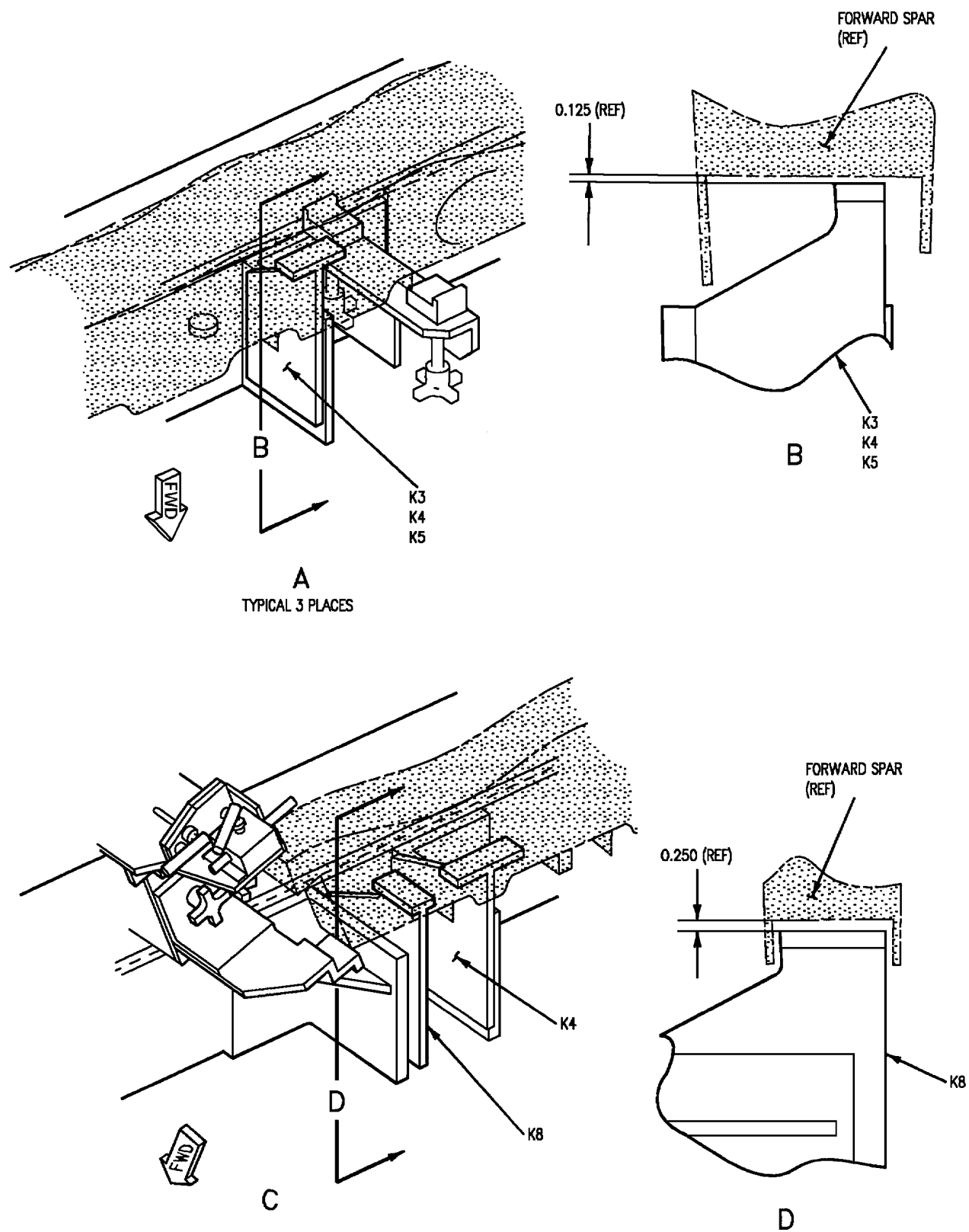


Figure 2. Inspection of Inner Wing Contour (Sheet 2)

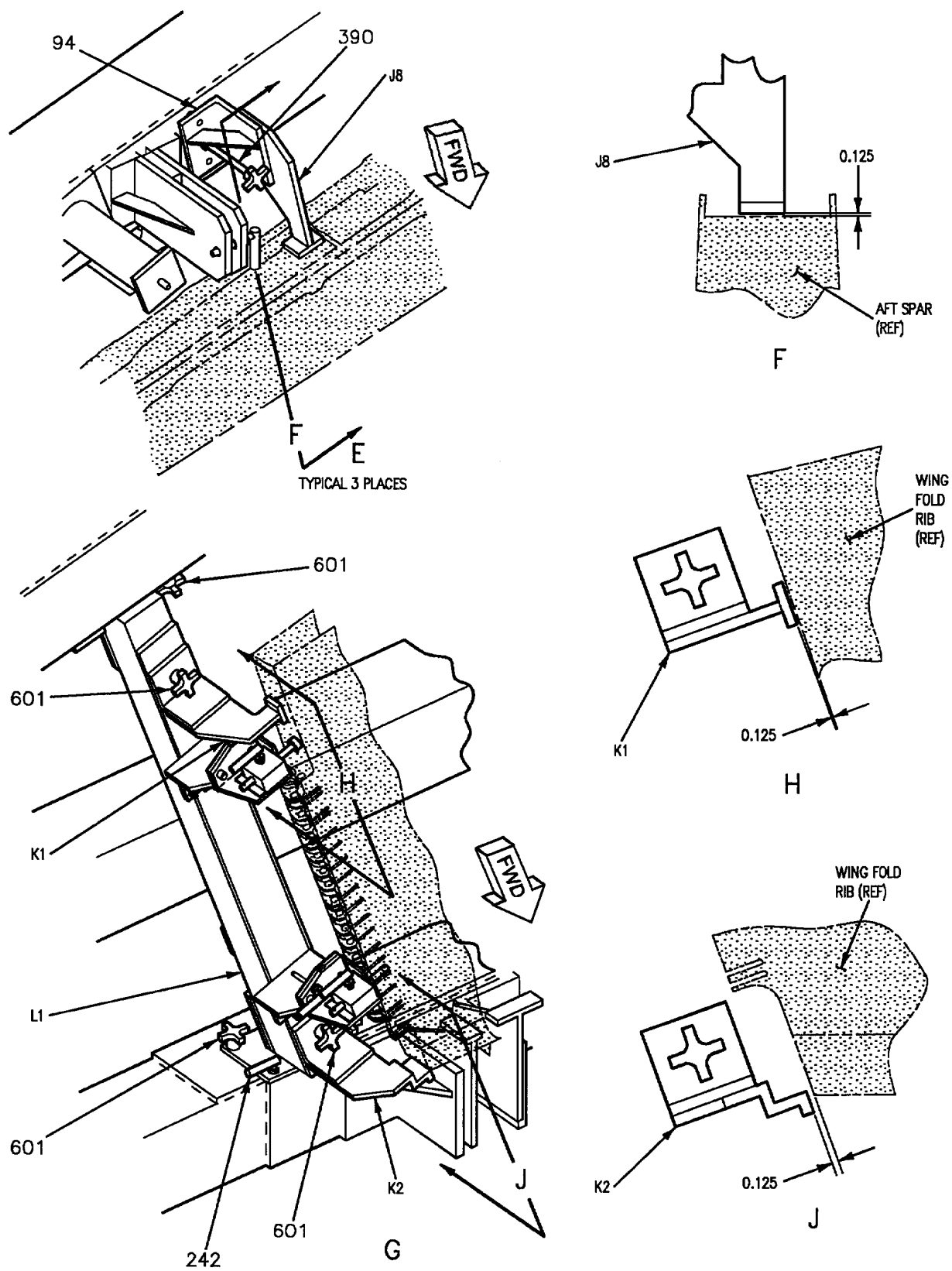


Figure 2. Inspection of Inner Wing Contour (Sheet 3)

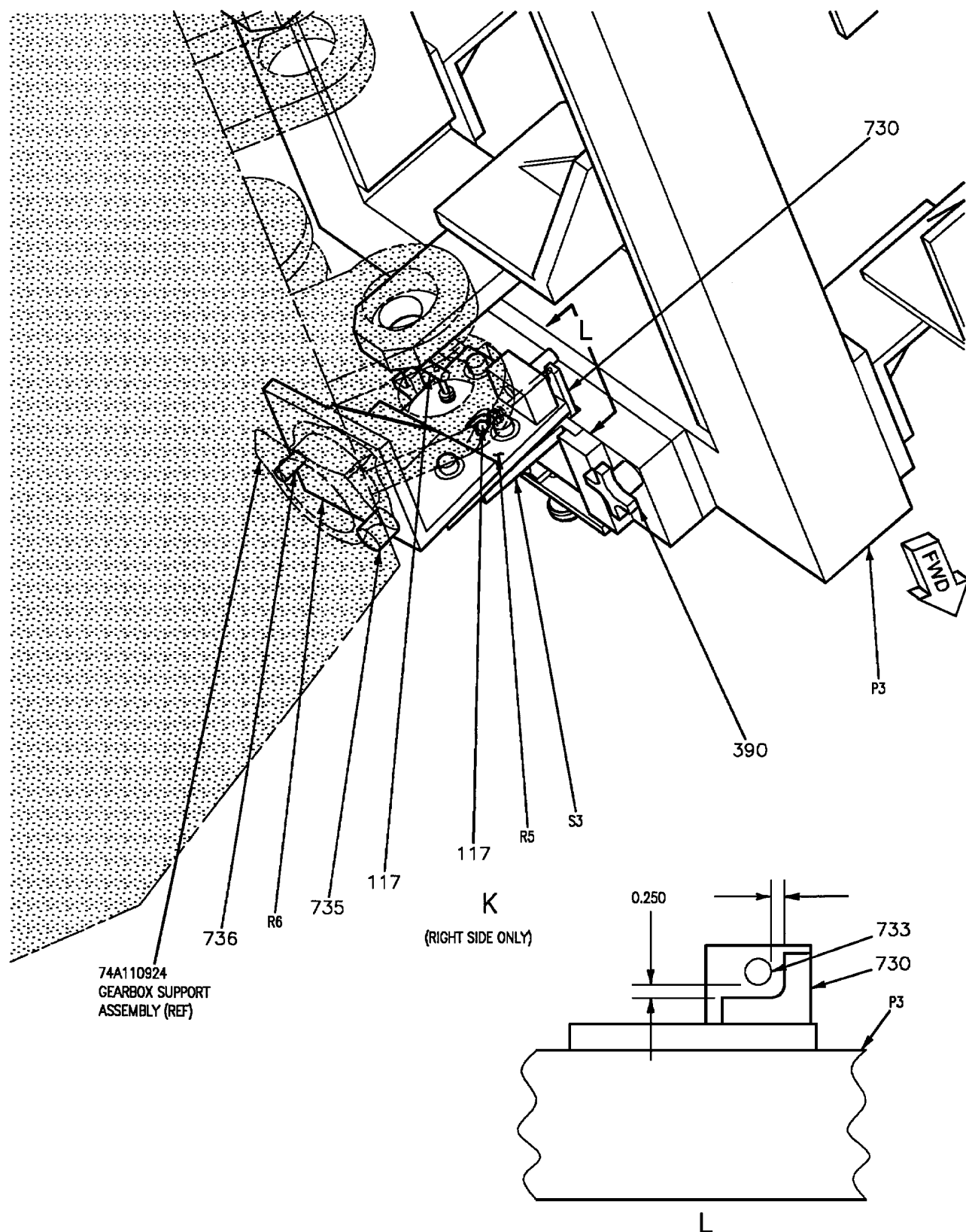


Figure 2. Inspection of Inner Wing Contour (Sheet 4)

Detail No.	Name	Function
Subassembly A	Frame	Main support for wing and various details.
J8	Locator	Used to inspect gap for aft spar.
K1, K2	Locator	Used to inspect gap for wing fold rib.
K3, K4, K5, K8	Locator	Used to inspect gap for forward spar.
L1	Locator	Locates various details for locating wing fold rib.
P3	Lug Frame	Locates details for inspecting gearbox support assembly.
R5, S3	Angle	Supports and locates details for locating gearbox support assembly.
R6	Locator	Used to locate gearbox support assembly.
94	Angle	Supports locator J8.
117	L-Pin	Locates and attaches details to lug frame (detail P3).
242	L-Pin	Locates and attaches locator L1 to fixture.
390	Hand Knob	Secures details to lug frame (detail P3).
601	Hand Knob	Secures details to subassembly A.
730	Block	Used for inspecting gap for gearbox support assembly.
733	Pin	Used for inspecting gap for gearbox support assembly.
735, 736	Locating Pin	Locates gearbox support assembly in place on right side wing.

Figure 2. Inspection of Inner Wing Contour (Sheet 5)

DEPOT MAINTENANCE

STRUCTURE REPAIR

INNER WING MAINTENANCE FIXTURE, RE174110004-1, -2

INNER WING REPAIRS

Reference Material

Structure Repair, Wing	A1-F18AC-SRM-210
Inner Wing Skins Hoisting Adapter, RE274110600-1, -2	WP003 04
Inner Wing Maintenance Fixture, RE174110004-1, -2, Loading Inner Wing	WP004 01
Structure Illustrated Parts Breakdown - Wing	A1-F18AC-SRM-410
Structure Assy - Wing, Inner	FIG 013 00
Structure Repair, General Information	A1-F18AC-SRM-200
Drilling Machines	WP004 17
Bushing Removal, Installation, and Reaming Tool Set, 74D110174-1001	WP004 37

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Record of Applicable Technical Directives

None

1. DESCRIPTION.

2. The inner wing maintenance fixture (fixture) is used to evaluate and repair the inner wing (wing). The fixture contains locators for various details on the wing and supports to hold the wing in position during repair actions. The supports and locators also serve as gaging surfaces for damage inspection. The fixture requires accurate leveling and verification, with an alignment kit, before use and should be gage recycled with the inner wing alignment kit to verify fixture remains accurate.

Support Equipment Required

Part Number or Type Designation	Nomenclature
RE174110004-1, -2	Maintenance Fixture, Inner Wing

Materials Required

None

3. WING FOLD RIB, 74A110611, INSTALLATION. See figure 1.

- a. Install wing into maintenance fixture (WP004 01).
- b. Remove damaged wing fold rib from wing structure.
- c. Pin subassemblies H and J to fixed position using L-pins (detail 117), view A.
- d. Locate replacement wing fold rib in position on wing structure, view A.
- e. Insert pins (details 214 and 215) into tooling holes in wing fold rib, view A.
- f. Place 0.125 thickness gage between locators (detail K1 and K2) and wing fold rib, view B.
- g. Clamp wing fold rib in place.
- h. Install wing fold rib in wing structure.

4. FORWARD SPAR, 74A110604, INSTALLATION. See figure 2.

- a. Install wing into maintenance fixture (WP004 01).
- b. Removed damaged forward spar from wing structure.
- c. Pin subassemblies H and J to fixed position using L-pins (detail 117), views A and B.
- d. Locate replacement spar in position on wing structure.
- e. Insert pins (detail 129) into tooling holes in spar, views A and B.
- f. Place 0.125 thickness gage between locators (details K3, K4, and K5) and spar, views C and D.
- g. Place 0.250 thickness gage between locator (detail K8) and spar, views E and F.
- h. Clamp forward spar in place.
- i. Install forward spar.

5. SPARS, NO. 1, NO. 2, NO. 3, NO. 4, REAR SPAR, AND AFT SPAR. See figure 3. Torque box spars are covered separately with installation procedures below. Wing must be installed in maintenance fixture (WP004 01).

6. Spar No. 1, 74A110605 and 74A110698.

NOTE

Wing fold rib and forward spar must be installed before completing this procedure.

- a. Remove damaged spars from wing structure.
- b. Locate support assembly (detail 73) in place in subassembly A, sheet 1.
- c. Install support assembly (detail 73) on subassembly A using L-pins (detail 242) and hand knobs (detail 601), sheet 1.
- d. Install support (detail K9) on subassembly A using hand knob (detail 601), view A.
- e. Install locator (detail 607) on support (detail K9) using hand knob (detail 601), view A.
- f. Install pylon bushing pin (detail N2) by attaching angle (detail 640) to support (detail 73) using hand knob (detail 601), views A and B.
- g. Locate replacement spar, 74A110698, in position, and rest in locator (detail 607), view A.
- h. Insert pylon bushing pin (detail N2) into pylon bushing hole on spar, 74A110698, view B.
- i. Clamp spar in place.
- j. Install locator (detail R4) on support (detail 73) using hand knob (detail 601), view A.
- k. Locate support assembly (detail 98) in place on subassembly A, sheet 1.
- l. Install support assembly (detail 98) on subassembly A using L-pins (detail 242) and hand knobs (detail 601), sheet 1.
- m. Install locator (detail P6) on support (detail A3) using hand knobs (detail 601), view A.
- n. Install locator (detail P7) by attaching angle (detail 189) to support assembly (detail 98) using hand knobs (detail 601), view A.

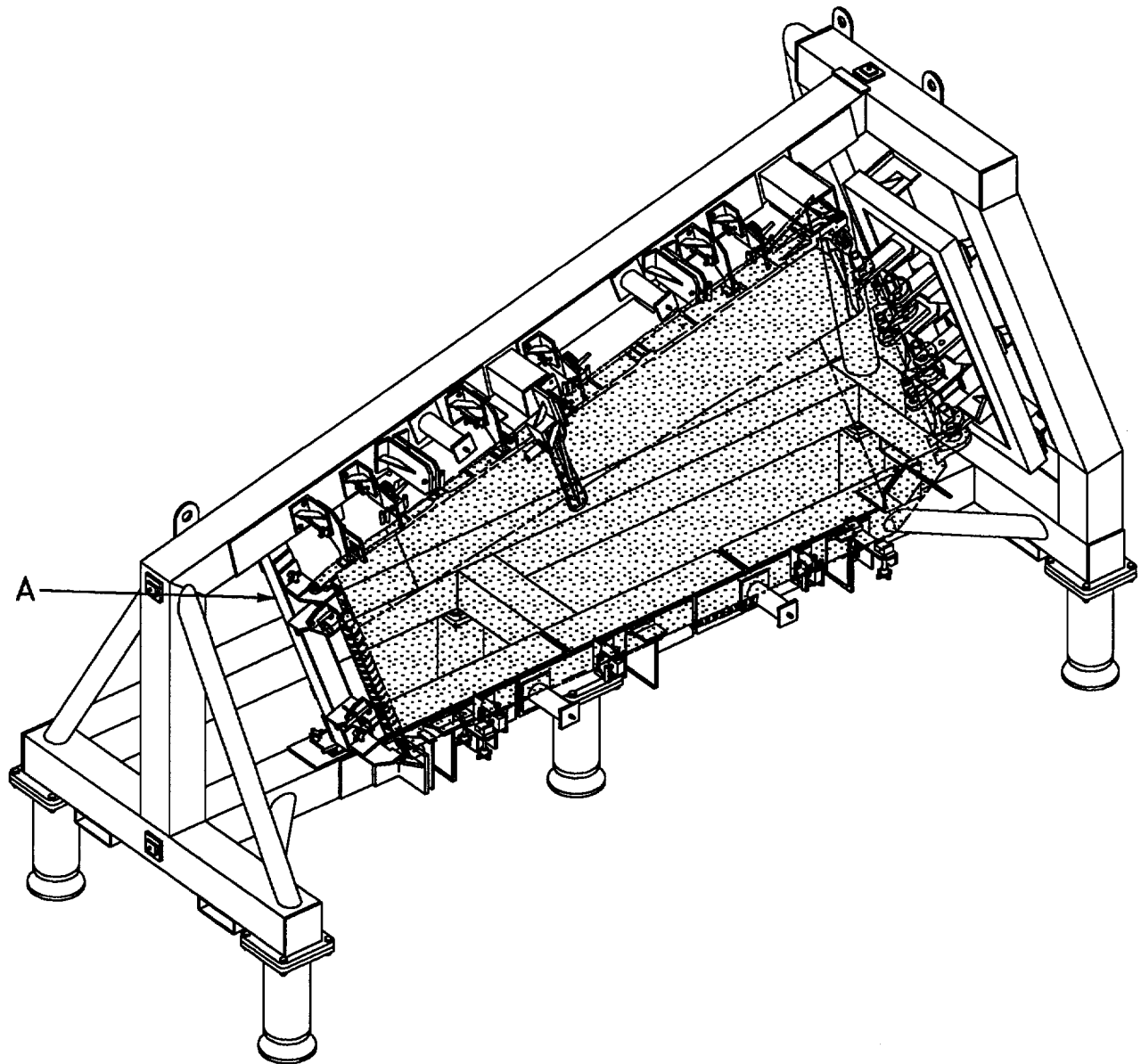


Figure 1. Wing Fold Rib, 74A110611, Installation (Sheet 1)

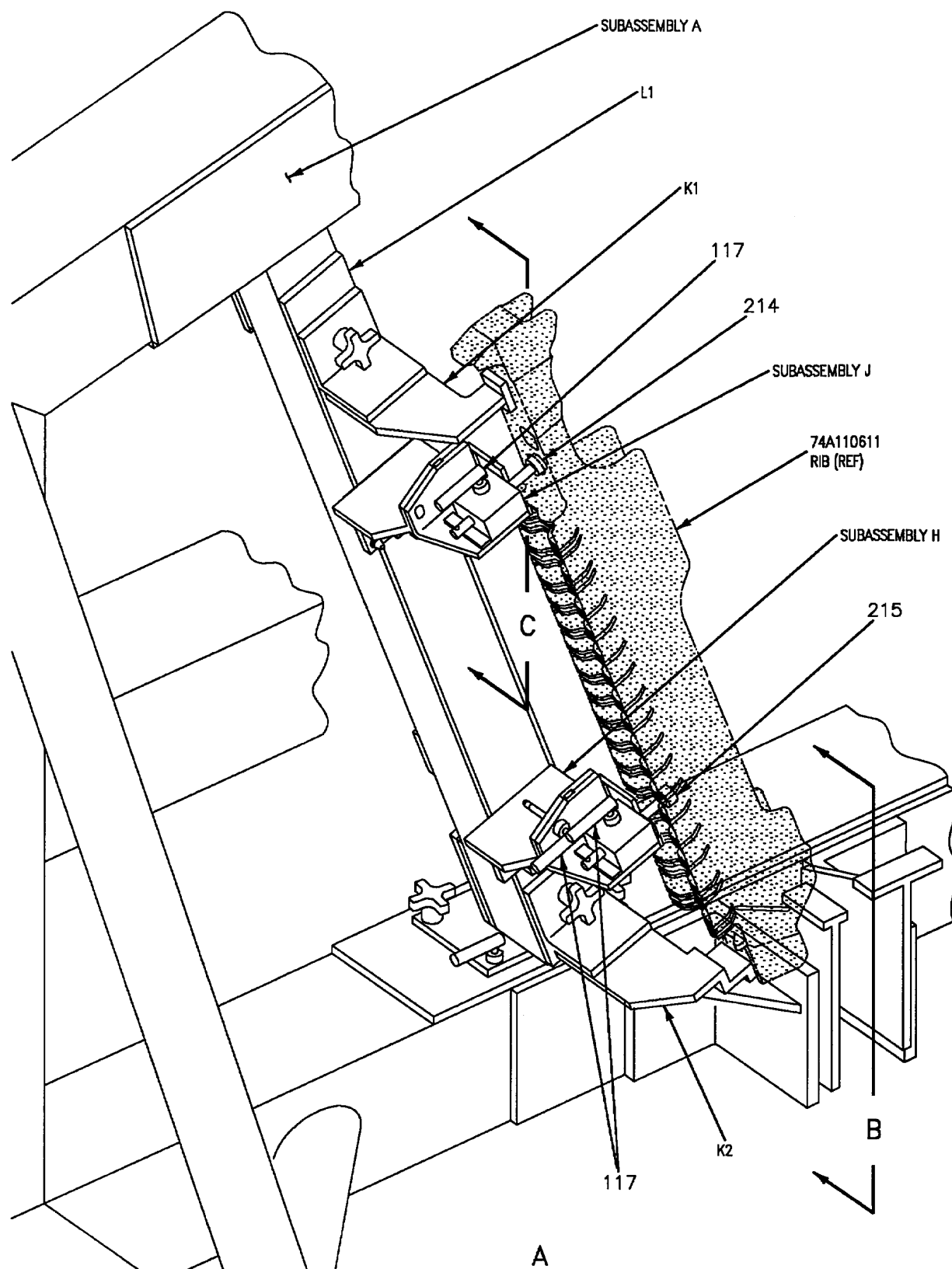
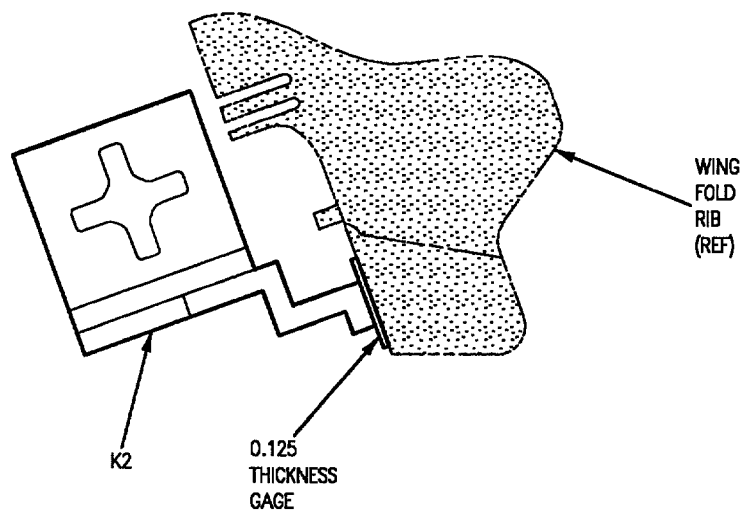
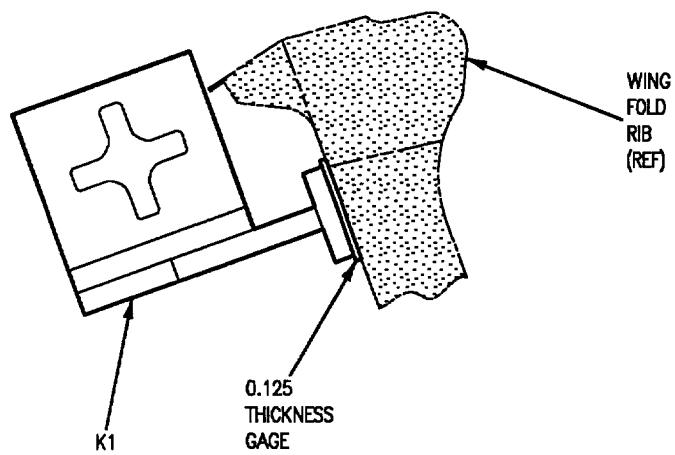


Figure 1. Wing Fold Rib, 74A110611, Installation (Sheet 2)



B



C

Figure 1. Wing Fold Rib, 74A110611, Installation (Sheet 3)

Detail No.	Name	Function
Subassembly A	Frame	Main support for holding wing and various details.
Subassembly H	Locator Assembly	Locates structure by pinning tooling holes.
Subassembly J	Locator Assembly	Locates structure by pinning tooling holes.
K1, K2	Locator	Locates wing fold rib.
L1	Locator	Locates various details for locating wing fold rib.
117	L-Pin	Locates and installs various details on fixture.
214, 215	Pin	Installs in wing fold rib tooling holes for location.

Figure 1. Wing Fold Rib, 74A110611, Installation (Sheet 4)

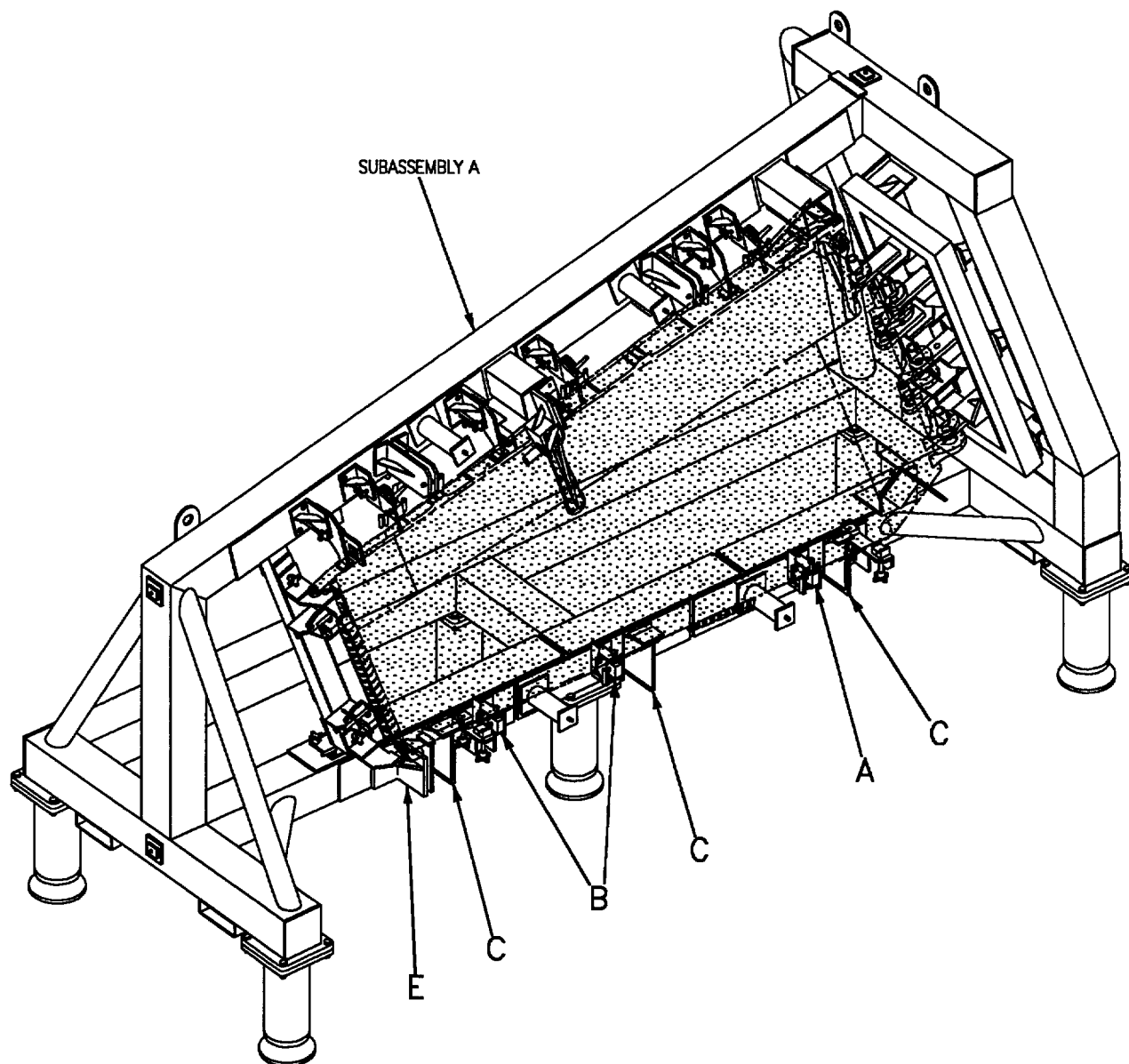
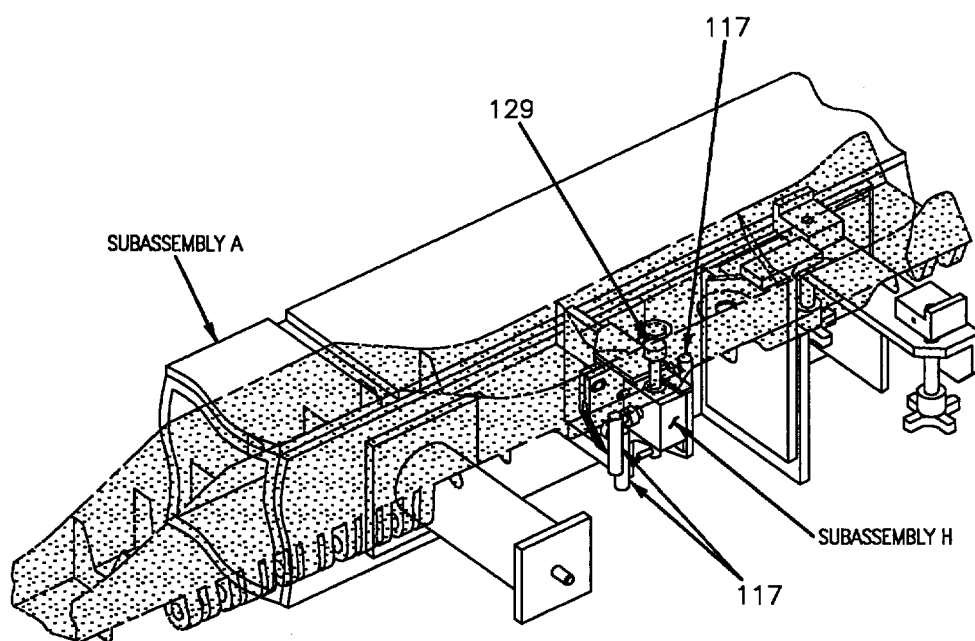
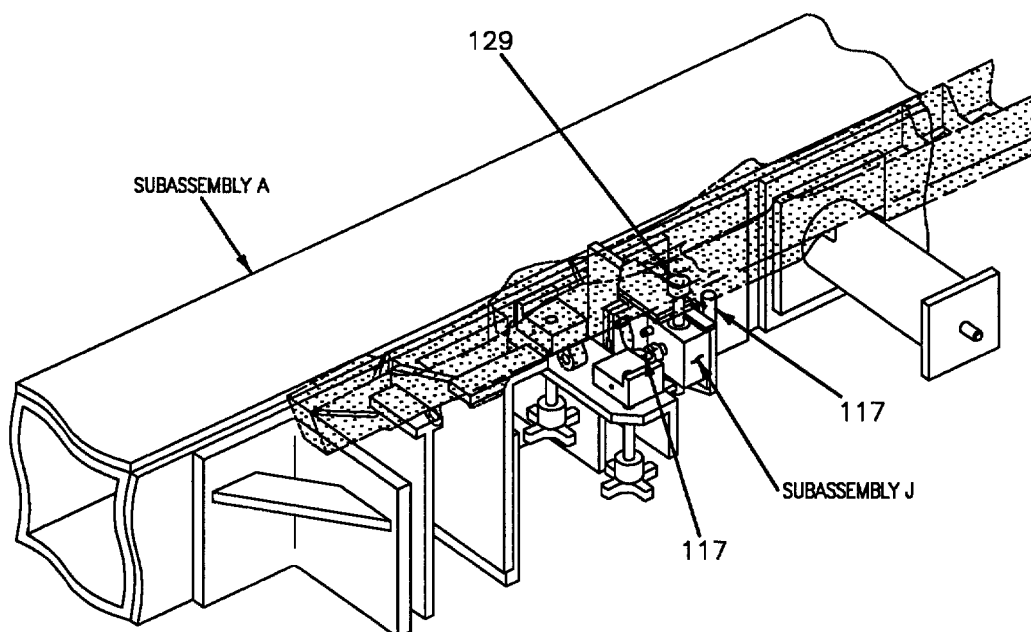


Figure 2. Forward Spar, 74A110604, Installation (Sheet 1)



A



B

TYPICAL 2 PLACES

Figure 2. Forward Spar, 74A110604, Installation (Sheet 2)

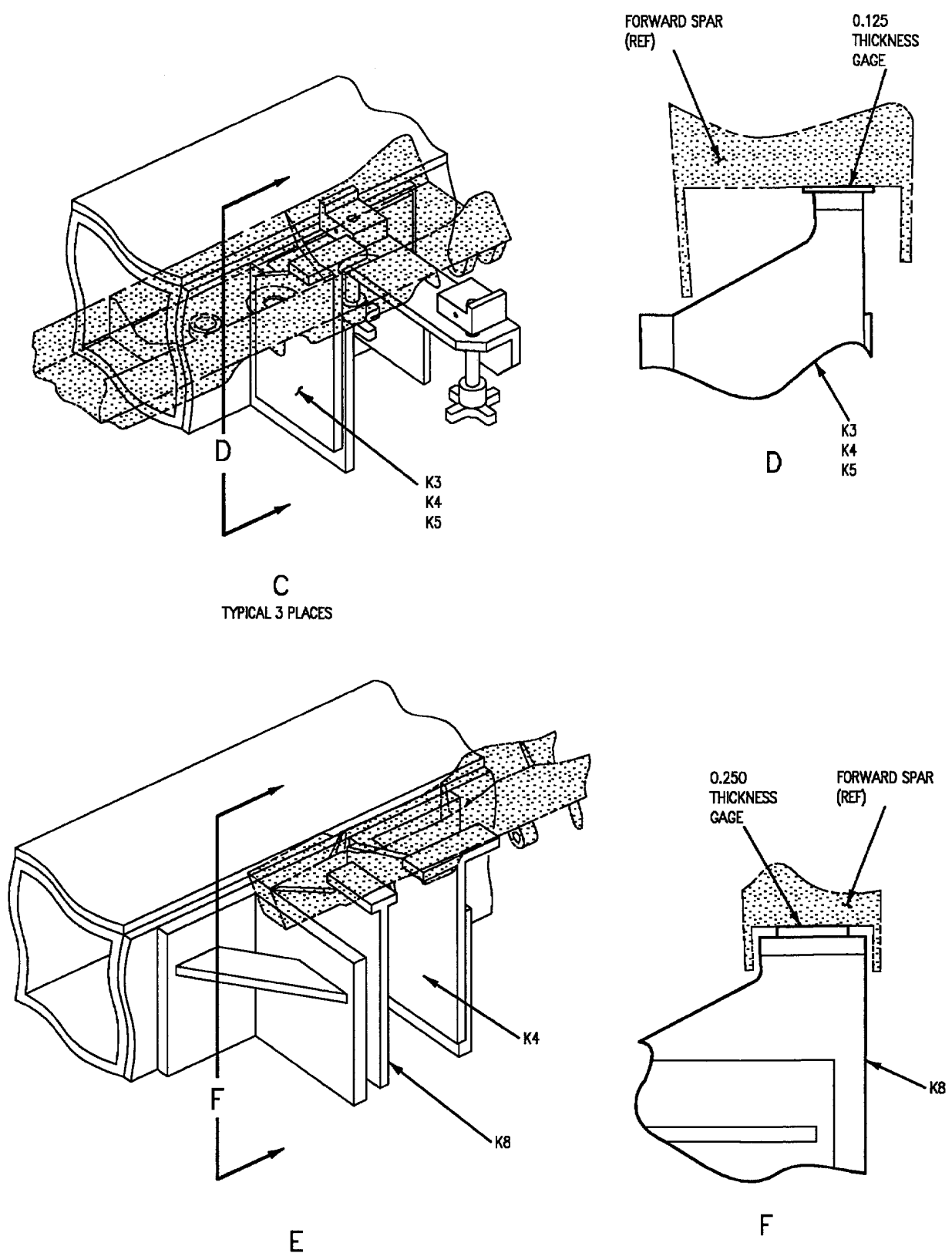


Figure 2. Forward Spar, 74A110604, Installation (Sheet 3)

Detail No.	Name	Function
Subassembly A	Frame	Main support for holding wing and various details.
Subassembly H	Locator Assembly	Locates structure by pinning tooling holes.
Subassembly J	Locator Assembly	Locates structure by pinning tooling holes.
K3, K4, K5, K8	Locator	Used to set gap for forward spar.
117	L-Pin	Locates and installs various details on fixture.
129	Pin	Installs in forward spar tooling holes for location.

Figure 2. Forward Spar, 74A110604, Installation (Sheet 4).

o. Locate support assembly (detail B3) in place on subassembly A, sheet 1.

p. Install support assembly (detail B3) on subassembly A using L-pins (detail 242) and hand knobs (detail 601), sheet 1.

q. Install locator (detail P4) by attaching angle (detail 712) to support assembly (detail B3) using hand knob (detail 601), view A.

r. Install locator (detail 703) on support (detail C7) using hand knob (detail 601), view A.

s. Locate replacement spar, 74A110605, in position in wing structure, and rest on locator (detail R4), view A.

t. Insert pins (detail 718) through tooling holes in spar into locators (detail P4, P6, and P7), view A.

u. Insert pin (detail 720) through tooling hole in spar into locator (detail R4), view A.

v. Clamp spar in place.

w. Install spars 74A110605 and 74A110698.

7. Spar No. 2, 74A110606.

NOTE

Wing fold rib and forward spar must be installed before completing this procedure.

a. Remove damaged spars from wing structure.

b. Locate support assembly (detail 73) in place in subassembly A, sheet 1.

c. Install support assembly (detail 73) on subassembly A using L-pins (detail 242) and hand knobs (detail 601), sheet 1.

d. Locate support assembly (detail 98) in place on subassembly A, sheet 1.

e. Install support assembly (detail 98) on subassembly A using L-pins (detail 242) and hand knobs (detail 601), sheet 1.

f. Locate support assembly (detail B3) in place on subassembly A, sheet 1.

g. Install support assembly (detail B3) on subassembly A using L-pins (detail 242) and hand knobs (detail 601), sheet 1.

h. Install locator (detail 607) on support (detail 50) using hand knob (detail 601), view C.

i. Install locator (detail 633) on support (detail 69) using hand knob (detail 601), view C.

j. Install locator (detail P7) on support assembly (detail 98) using hand knob (detail 601), view C.

k. Install locator (detail 703) on support (detail C4) using hand knob (detail 601), view C.

l. Install locator (detail P4) on angle (detail 712) using hand knob (detail 601), view C.

m. Locate replacement spar, 74A110606, in position, and rest on locator (detail 607), view C.

n. Insert pins (detail 718), 2 places, through tooling holes in spar into locators (detail P4 and P7), view C.

o. Clamp spar in place.

p. Install spar 74A110606.

8. Spar No. 3, 74A110607.

NOTE

Wing fold rib and forward spar must be installed before completing this procedure.

a. Remove damaged spars from wing structure.

b. Locate support assembly (detail 73) in place in subassembly A, sheet 1.

c. Install support assembly (detail 73) on subassembly A using L-pins (detail 242) and hand knobs (detail 601), sheet 1.

d. Locate support assembly (detail 98) in place on subassembly A, sheet 1.

e. Install support assembly (detail 98) on subassembly A using L-pins (detail 242) and hand knobs (detail 601), sheet 1.

f. Locate support assembly (detail B3) in place on subassembly A, sheet 1.

g. Install support assembly (detail B3) on subassembly A using L-pins (detail 242) and hand knobs (detail 601), sheet 1.

h. Install locator (detail 606) on support (detail 46) using hand knob (detail 601), view D.

i. Install locator (detail L9) on support (detail 68) using hand knob (detail 601), view D.

j. Install locator (detail P7) on support (detail 189) using hand knob (detail 601), view D.

k. Install locator (detail 703) on support (detail C3) using hand knob (detail 601), view D.

l. Install locator (detail P4) on angle (detail 712) using hand knob (detail 601), view D.

m. Locate replacement spar, 74A110607, in position, and rest on locator (detail 606), view D.

n. Insert pins (detail 718) through tooling holes in spar into locators (detail L9, P4 and P7), view D.

o. Clamp spar in place.

p. Install spar 74A110607.

9. Spar No. 4, 74A110608.

NOTE

Wing fold rib and forward spar must be installed before completing this procedure.

a. Remove damaged spars from wing structure.

b. Locate support assembly (detail 73) in place in subassembly A, sheet 1.

c. Install support assembly (detail 73) on subassembly A using L-pins (detail 242) and hand knobs (detail 601), sheet 1.

d. Locate support assembly (detail 98) in place on subassembly A, sheet 1.

e. Install support assembly (detail 98) on subassembly A using L-pins (detail 242) and hand knobs (detail 601), sheet 1.

f. Locate support assembly (detail B3) in place on subassembly A, sheet 1.

g. Install support assembly (detail B3) on subassembly A using L-pins (detail 242) and hand knobs (detail 601), sheet 1.

h. Install locator (detail 607) on support (detail 47) using hand knob (detail 601), view E.

i. Install locator (detail 633) on support (detail 67) using hand knob (detail 601), view E.

j. Install locator (detail R9) on support (detail 640) using hand knob (detail 601), view E.

k. Install locator (detail 705) on support (detail B9) using hand knob (detail 601), view E.

l. Install locator (detail P4) on angle (detail 712) using hand knob (detail 601), view E.

m. Locate replacement spar, 74A110608, in position, and rest on locator (detail 607), view E.

n. Insert pins (detail 719) through tooling holes in spar into locators (detail P4 and R9), view E.

o. Clamp spar in place.

p. Install spar 74A110608.

10. Rear Spar, 74A110609.

NOTE

Wing fold rib and forward spar must be installed before completing this procedure.

a. Remove damaged spars from wing structure.

b. Locate support assembly (detail 73) in place in subassembly A, sheet 1.

c. Install support assembly (detail 73) on subassembly A using L-pins (detail 242) and hand knobs (detail 601), sheet 1.

d. Locate support assembly (detail 98) in place on subassembly A, sheet 1.

e. Install support assembly (detail 98) on subassembly A using L-pins (detail 242) and hand knobs (detail 601), sheet 1.

f. Locate support assembly (detail B3) in place on subassembly A, sheet 1.

g. Install support assembly (detail B3) on subassembly A using L-pins (detail 242) and hand knobs (detail 601), sheet 1.

h. Install locator (detail 607) on support (detail 43) using hand knob (detail 601), view F.

i. Install locator (detail P9) on support (detail 640) using hand knob (detail 601), view F.

j. Install locator (detail P8) on angle (detail 712) using hand knob (detail 601), view F.

k. Install locator (detail 648), 2 places, on lug frame (detail P3) using hand knob (detail 601), view F.

l. Locate replacement spar, 74A110609, in position, view F.

m. Insert pins (detail 716) through tooling holes in spar into locators (detail P8), view F.

n. Insert pins (detail 717) through tooling holes in spar into locators (detail P9), view F.

o. Install 0.125 thickness gage, 2 places, between spar and locators (detail 648), view G.

p. Clamp spar in place.

q. Install spar 74A110609.

11. Aft Spar, 74A110952.

a. Install subassembly H on subassembly A using hand knob (detail 593), View H. Slide pin (detail 618) to retracted position.

b. Install subassembly J, 2 places, on subassembly A using hand knob (detail 593), View H. Slide pin (detail 618) to retracted position, 2 places.

c. Install locator (detail J8), 3 places, on subassembly A using hand knob (detail 390), view H.

d. Locate replacement spar, 74A110952, in position, and rest on locator (detail 614), view H.

e. Insert pins (detail 618), 3 places, into tooling holes in aft spar, view H.

f. Pin subassemblies H and J in fixed position using L-pins (detail 117), view H.

g. Install 0.125 thickness gage between locator (detail 614) and spar, view J.

h. Install 0.125 thickness gages, 3 places, between locators (detail J8) and spar, view K.

i. Clamp spar in place.

j. Install spar 74A110952.

12. LOCATING UPPER AND LOWER SKINS. See figure 4. These procedures can be used when removing or installing the upper or lower skins.

13. Lower Skin, 74A110601.

a. Installing skin:

(1) Remove all removable details from lug frame (detail P3).

(2) Attach locator (detail 660) to lug frame (detail P3), 2 places, view A.

(3) Attach locator (detail 659) to lug frame (detail P3), view A.

(4) Install wing structure into maintenance fixture (WP003 04).

(5) Hoist lower skin into position per Loading Skins into RE174110004 Inner Wing Maintenance Fixture (WP003 04).

(6) Install pin (detail 655), 3 places, through skin lugs and into locators (details 659 and 660), view A.

b. Removing skin:

(1) Attach hoist to lower skin per Loading Skins into RE174110004 Inner Wing Maintenance Fixture (WP004 01).

(2) Take up slack on hoist.

(3) Remove pins (detail 655) from locators (details 659 and 660), view A.

(4) Remove skin from wing structure.

14. Upper Skin, 74A110600.

a. Installing skin:

(1) Remove all removable details from lug frame (detail P3).

(2) Attach locator (detail 660) to lug frame (detail P3), 2 places, view A.

(3) Attach locator (detail 659) to lug frame (detail P3), view A.

(4) Install wing structure into maintenance fixture (WP003 04).

(5) Hoist lower skin into position per Loading Skins into RE174110004 Inner Wing Maintenance Fixture (WP003 04).

(6) Install pin (detail 654), 3 places, through skin lugs and into locators (details 659 and 660), view A.

b. Removing skin:

(1) Attach hoist to lower skin per Loading Skins into RE174110004 Inner Wing Maintenance Fixture (WP003 04).

(2) Take up slack on hoist.

(3) Remove pins (detail 654) from locators (details 659 and 660), view A.

(4) Remove skin from wing structure.

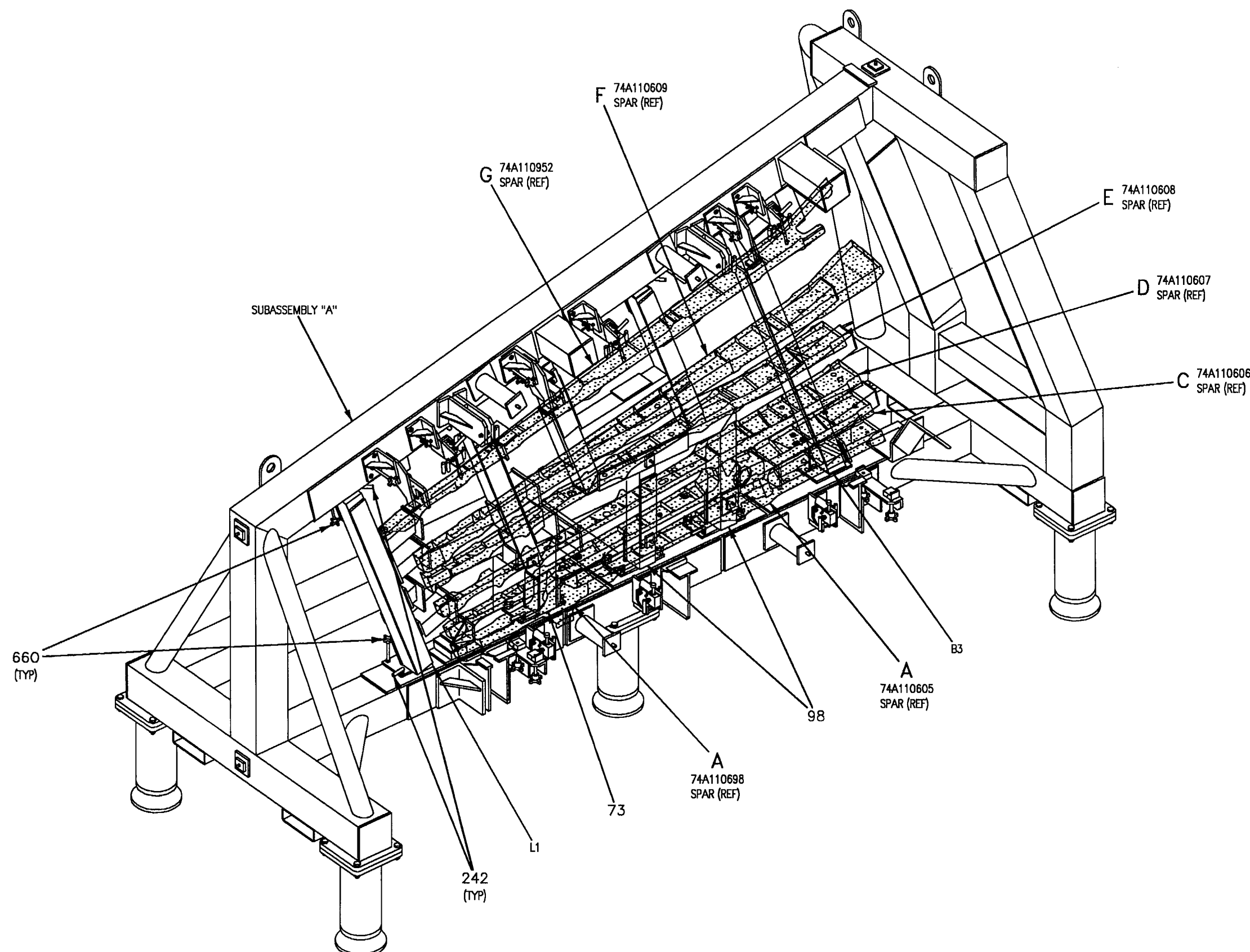


Figure 3. Spars, No. 1, No. 2, No. 3, No. 4, Rear Spar, and Aft Spar (Sheet 1)

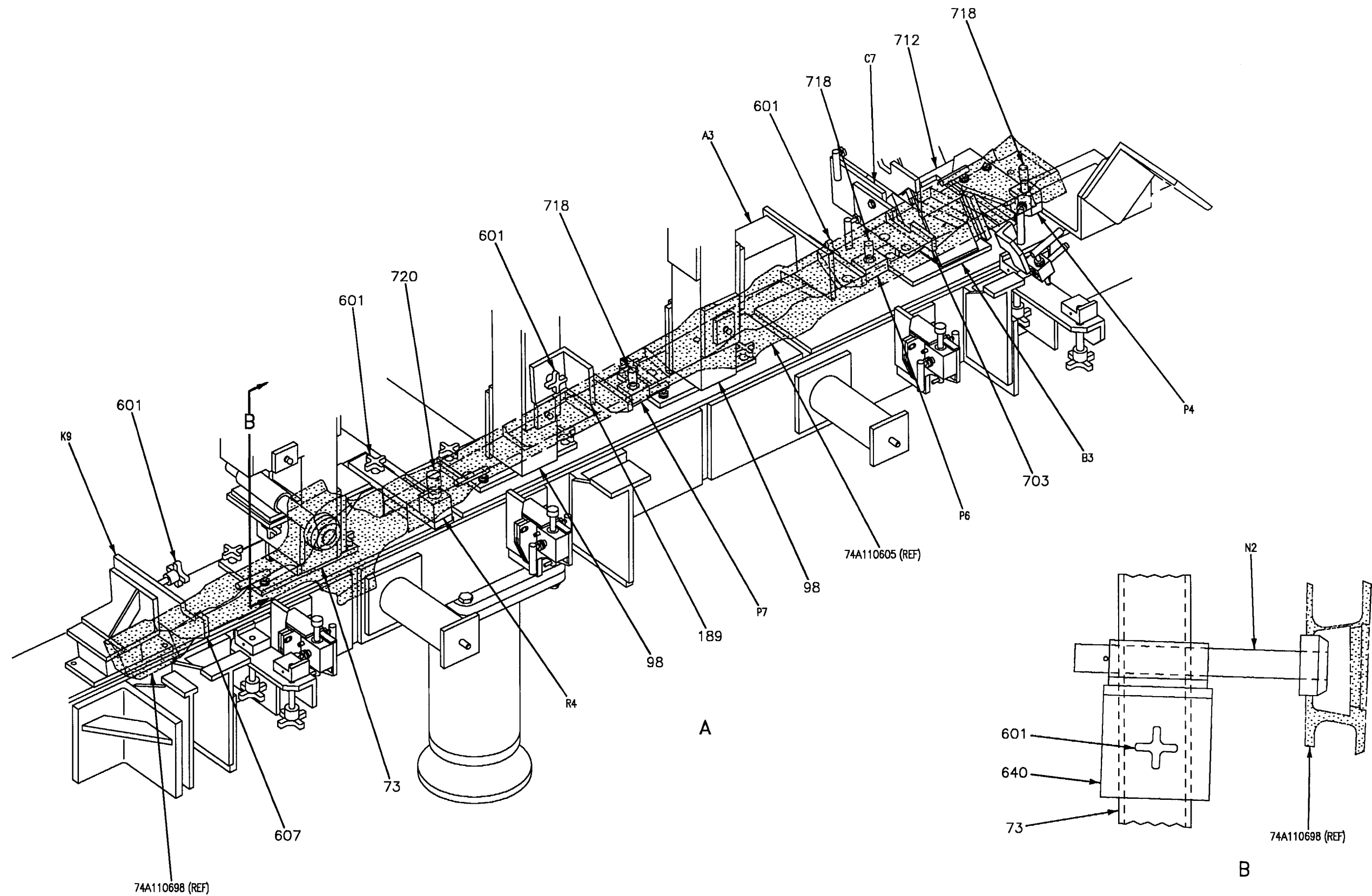


Figure 3. Spars, No. 1, No. 2, No. 3, No. 4, Rear Spar, and Aft Spar (Sheet 2)

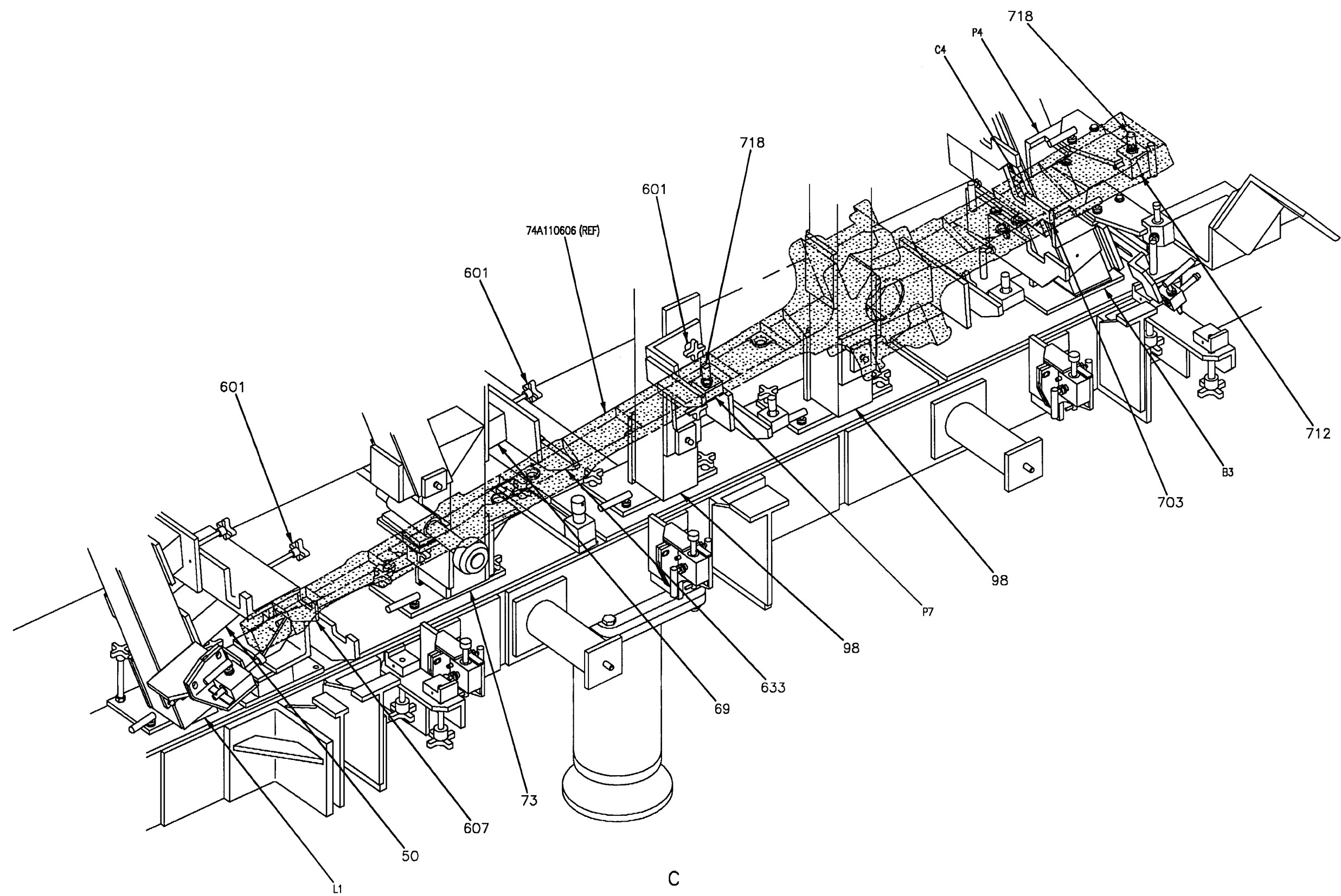


Figure 3. Spars, No. 1, No. 2, No. 3, No. 4, Rear Spar, and Aft Spar (Sheet 3)

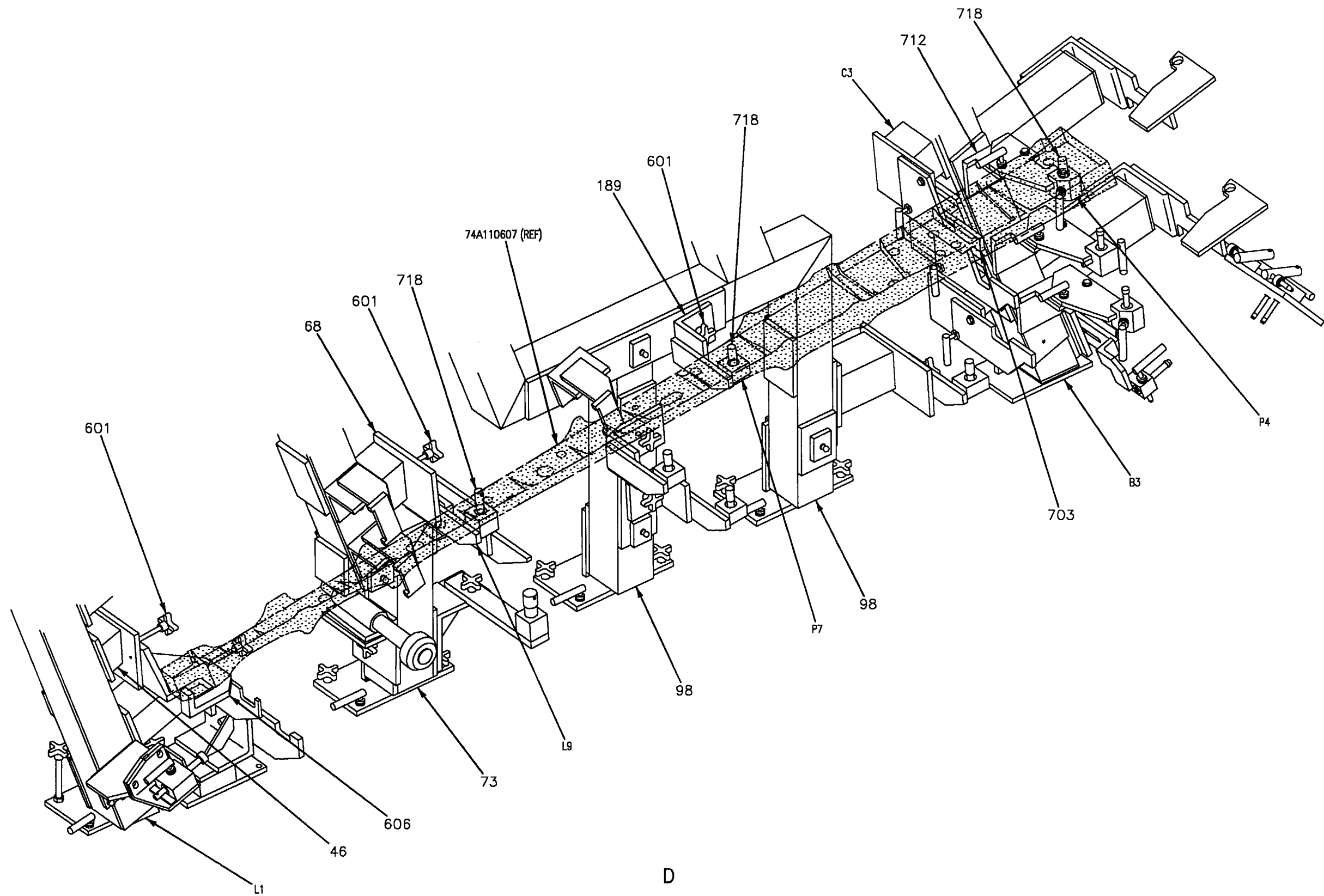


Figure 3. Spars, No. 1, No. 2, No. 3, No. 4, Rear Spar, and Aft Spar (Sheet 4)

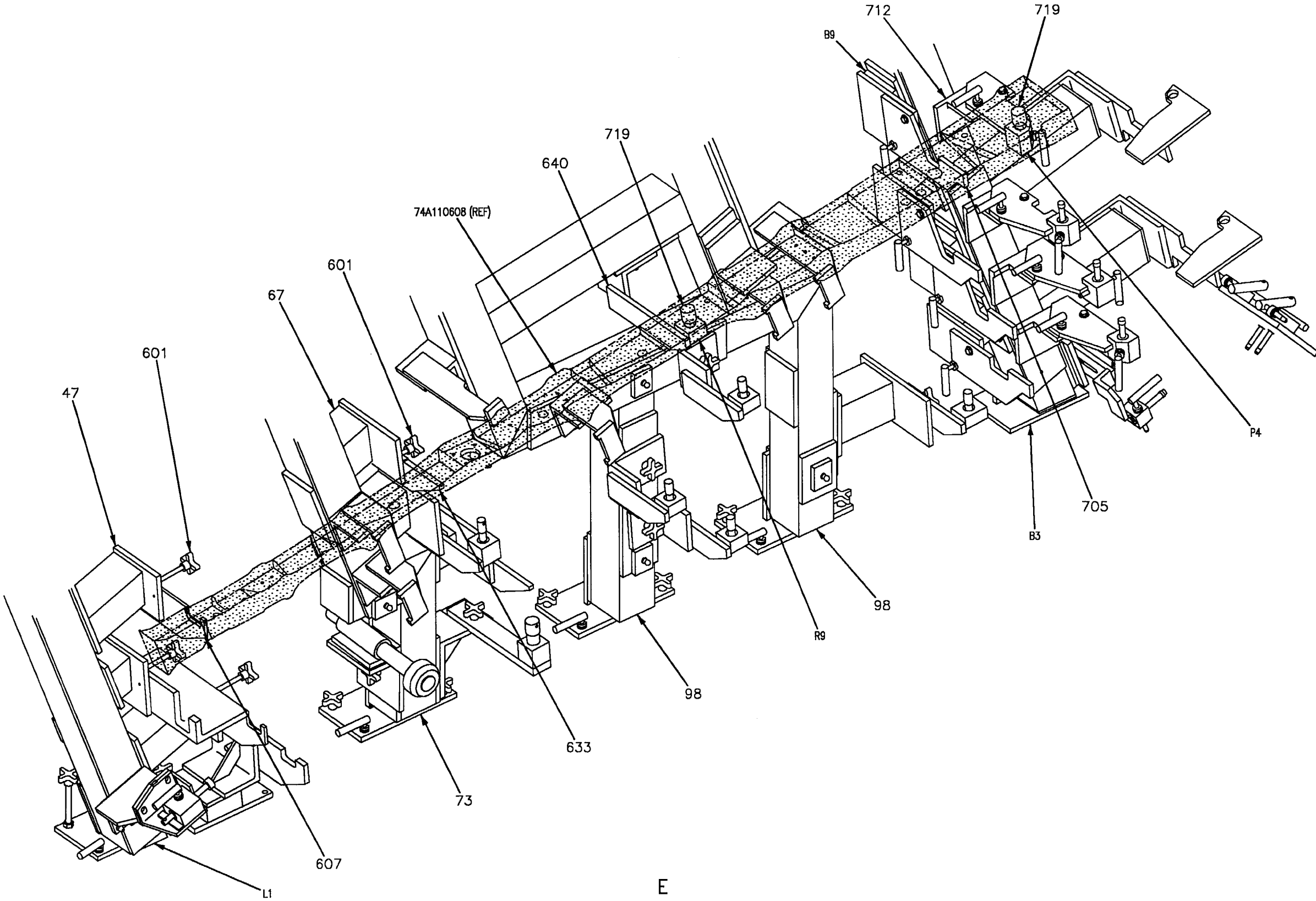
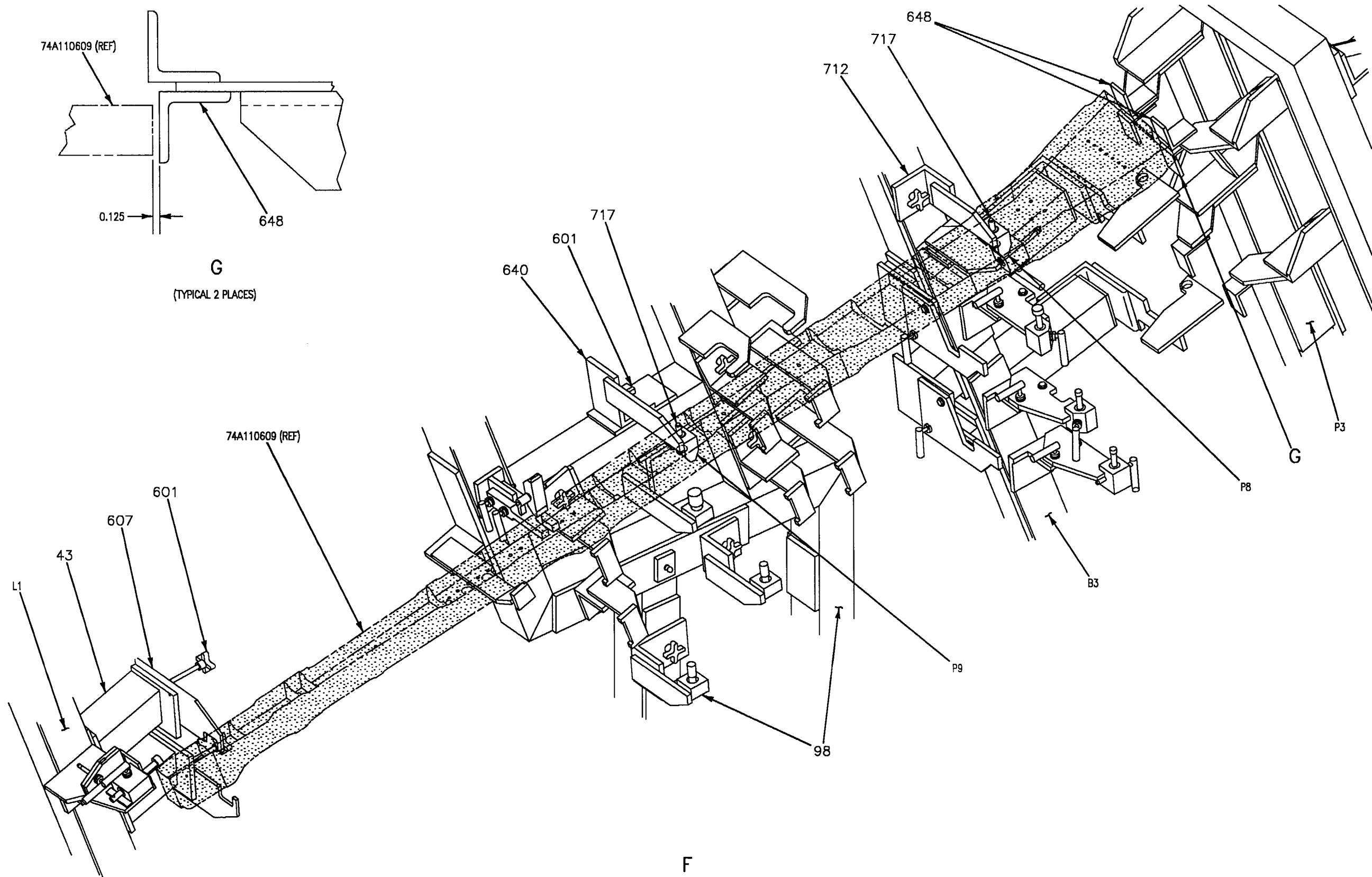


Figure 3. Spars, No. 1, No. 2, No. 3, No. 4, Rear Spar, and Aft Spar (Sheet 5)



F
Figure 3. Spars, No. 1, No. 2, No. 3, No. 4, Rear Spar, and Aft Spar (Sheet 6)

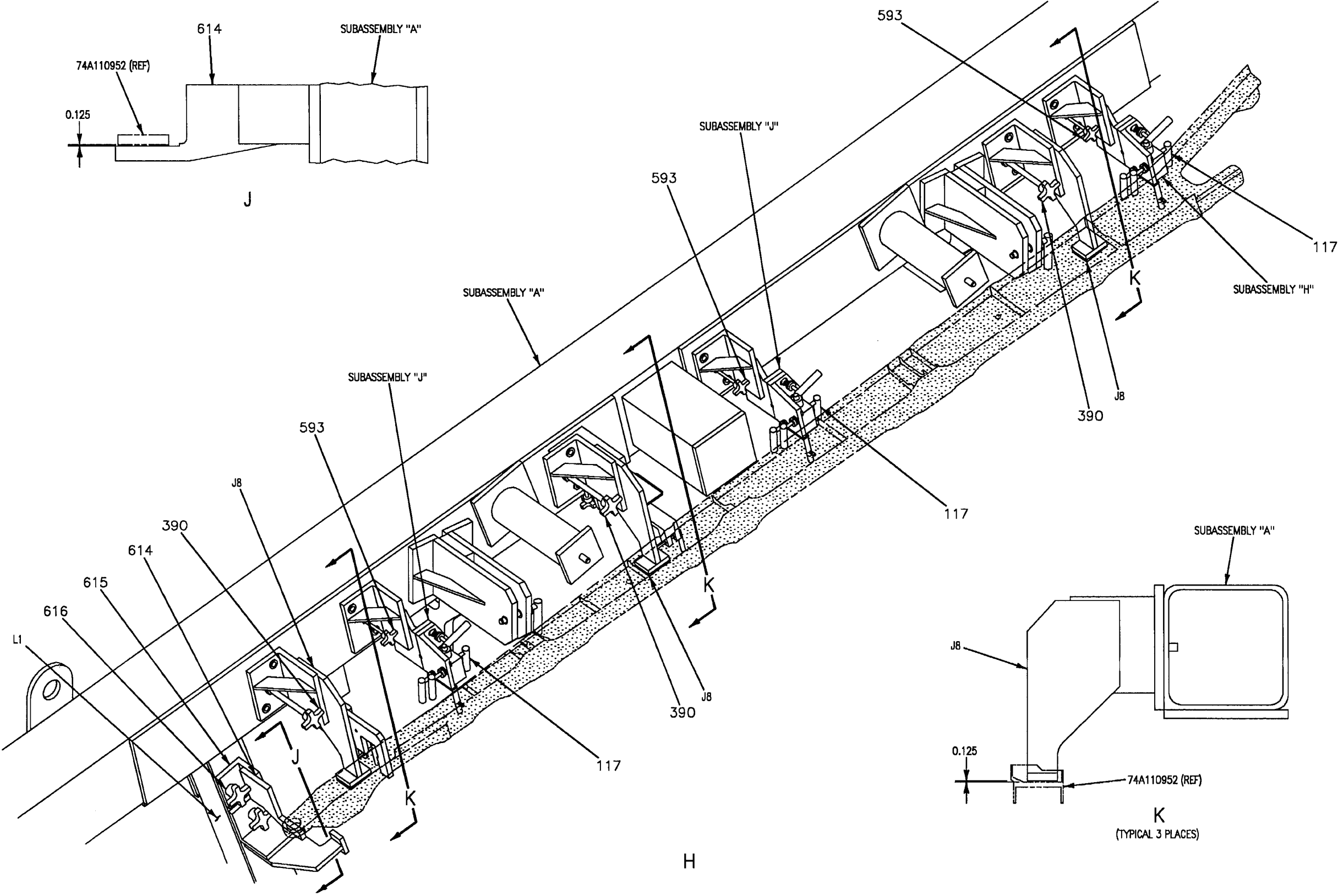


Figure 3. Spars, No. 1, No. 2, No. 3, No. 4, Rear Spar, and Aft Spar (Sheet 7)

Detail No.	Name	Function
Subassembly A	Frame	Main support for holding wing and various details.
Subassembly H, Subassembly J	Locator Assembly	Locates aft spar by pinning tooling holes.
A3	Support	Supports locator for No. 1 spar.
B3	Support Assembly	Supports details for locating spars.
B9	Support	Supports locator for No. 4 spar.
C3	Support	Supports locator for No. 3 spar.
C4	Support	Supports locator for No. 2 spar.
C7	Support	Supports locator for No. 1 spar.
J8	Locator	Used to locate aft spar.
K9	Support	Supports locator for No. 1 spar.
L9	Locator	Locates No. 3 spar in correct position.
N2	Pylon Bushing Pin	Supports No. 1 spar at pylon bushing hole.
P3	Lug Frame	Used to locate details at wing attach lugs.
P4	Locator	Locates various spars in correct position.
P6	Locator	Locates No. 1 spar in correct position.
P7	Locator	Locates various spars in correct position.
P8	Locator	Locates rear spar in correct position.
P9	Locator	Locates rear spar in correct position.
R4	Locator	Locates No. 1 spar in correct position.
R9	Locator	Locates No. 4 spar in correct position.
43	Support	Supports locators for rear spar.
46	Support	Supports locators for No. 3 spar.
47	Support	Supports locators for No. 4 spar.
50	Support	Supports locators for No. 2 spar.
67	Support	Supports locators for No. 4 spar.

Figure 3. Spars, No. 1, No. 2, No. 3, No. 4, Aft Spar, and Rear Spar (Sheet 8)

Detail No.	Name	Function
68	Support	Supports locators for No. 3 spar.
69	Support	Supports locators for No. 2 spar.
73	Support Assembly	Supports details for locating spars.
98	Support Assembly	Supports details for locating spars.
117	L-Pin	Used to pin subassemblies H and J in fixed position.
189	Angle	Supports locators for various details.
242	L-Pin	Locates and attaches various details in place.
390	Hand Knob	Secures locators (detail J8) to subassembly A.
593	Hand Knob	Secures subassemblies H and J to subassembly A.
601	Hand Knob	Secures various details to others.
606	Locator	Locates No. 3 spar in correct position.
607	Locator	Locates various spars in correct position.
614	Locator	Locates inboard end of aft spar.
618	Pin	Installs in aft spar tooling holes for location.
633	Locator	Locates various spars in correct position.
640	Angle	Supports various details for locating spars.
648	Locator	Locates rear spar at inboard end.
703	Locator	Locates various spars in correct position.
705	Locator	Locates No. 4 spar in correct position.
712	Angle	Supports locators for various spars.
716, 717, 718, 719, 720	Pin	Pins through tooling holes in spar and into locators, to secure in place.

Figure 3. Spars, No. 1, No. 2, No. 3, No. 4, Aft Spar, and Rear Spar (Sheet 9)

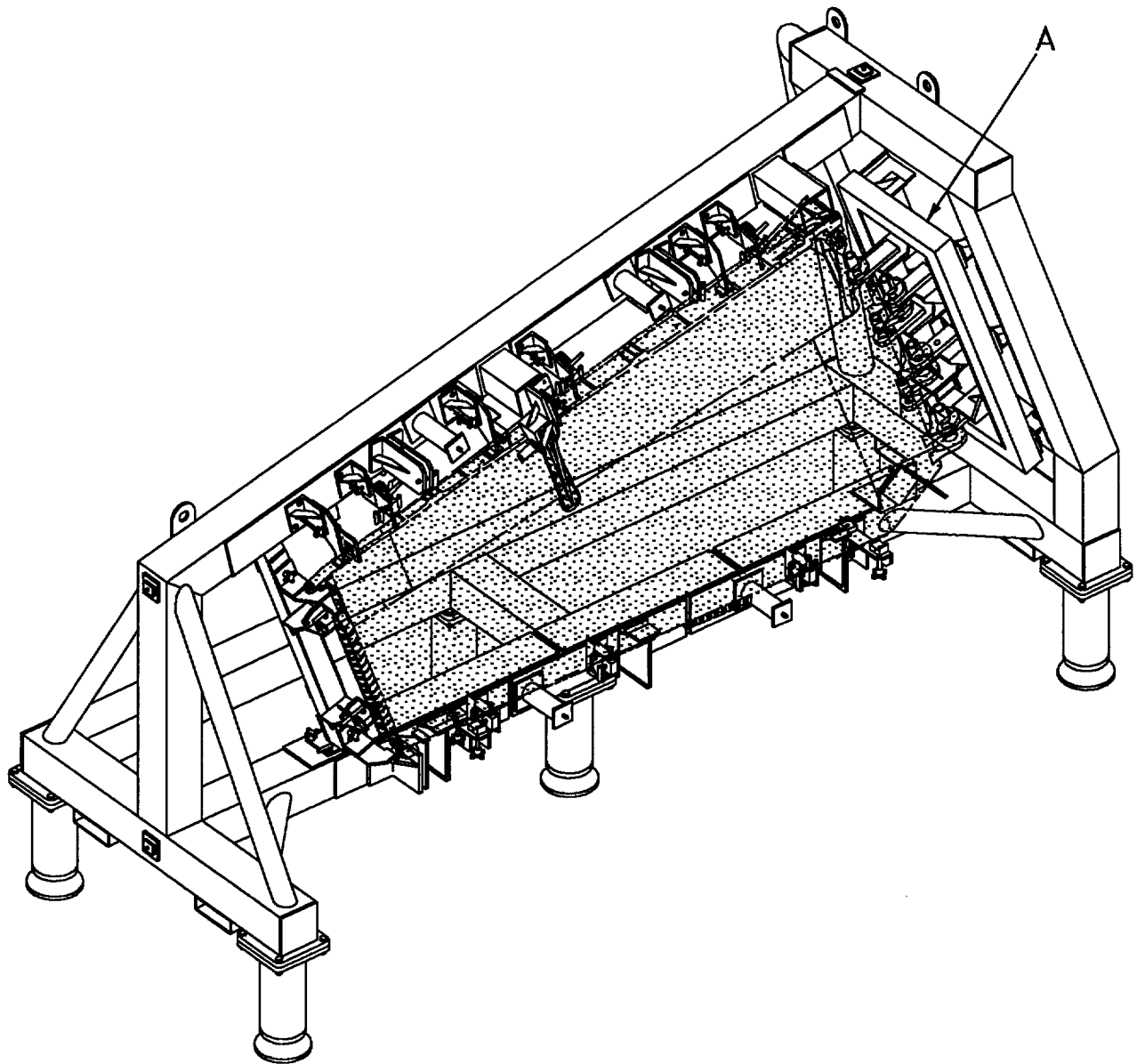


Figure 4. Locating Upper and Lower Skins (Sheet 1)

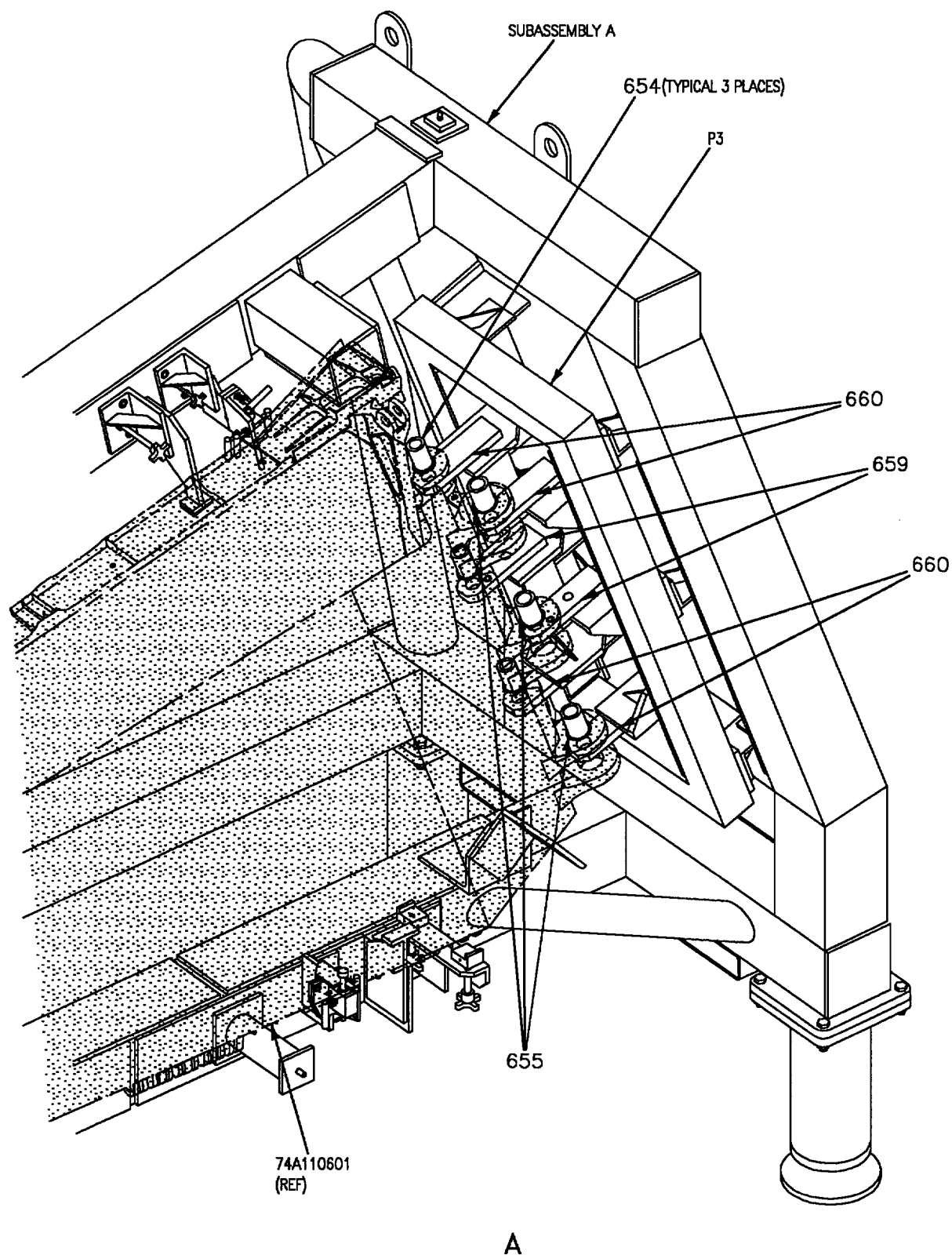


Figure 4. Locating Upper and Lower Skins (Sheet 2)

Detail No.	Name	Function
Subassembly A	Frame	Main support for holding wing and various details.
P3	Lug Frame	Locates wing attach lugs.
654	Pin	Pins upper lugs for pilot size holes.
655	Pin	Pins lower lugs for pilot size holes.
659, 660	Locator	Locates wing attach lugs.

Figure 4. Locating Upper and Lower Skins (Sheet 3)

15. TRAILING EDGE FLAP OUTBOARD HINGE HALF, 74A110953. See figure 5. The procedure below locates a replacement 74A110953 trailing edge flap outboard hinge half in one of four possible conditions. The conditions are: (1) A new hinge half with pilot size holes at the bushing locations, (2) A used hinge half, bushings removed, with nominal size holes, (3) A used hinge half, with bushings removed, with oversized holes, and (4) A used hinge half, with bushings installed. Also, drilling, reaming and cold working the hinge half can be done.

Support Equipment Required

Part Number or Type Designation	Nomenclature
RE874110004-1	Repair Kit, Inner Wing
74D110174-1001	Bushing Removal, Installation, and Reaming Tool Set

Materials Required

None

- a. Install wing into maintenance fixture (WP064 00).
- b. Install support assembly (detail L7) on subassembly A using hand knob (detail 390), view A.
- c. Insert spacer (detail 380) into support assembly (detail L7) at outboard side, view A.
- d. Locate new/used hinge half in position on support assembly (detail L7), view A.
- e. Determine condition of hinge half bushing holes.
- f. For new hinge half with pilot size holes:
 - (1) Insert pilot pin (detail 625) through support assembly (detail L7) and hinge half, view A.
- g. For used hinge half, with bushing removed with nominal size holes:

(1) Insert pilot pin (detail 626) through support assembly (detail L7) and hinge half, view A.

h. For used hinge half, bushing removed, with oversize holes:

(1) Insert pilot pin (detail 627) through support assembly (detail L7) and hinge half, view A.

i. For used hinge half with bushings installed:

(1) Insert pilot pin (detail 637) through support assembly (detail L7) and hinge half, view A.

j. Tighten knurled knob (detail 374) to hold hinge half in inboard/outboard position against spacer (detail 380) with clamp (detail E5), view A.

k. Remove pin installed through support assembly (detail L7) and hinge half.

l. Remove bushings from hinge half, if installed, using 74D110174-1003 Tool Set (A1-F18AC-SRM-200, WP004 37).

NOTE

Hinge half with nominal size holes may not require oversizing. This shall be determined before doing drilling operations.

m. Drill and ream holes in hinge half for applicable condition per information and sequence in Table 1, and view B. For drilling machine information (A1-F18AC-SRM-200, WP004 17).

(1) Cold work holes as required. Refer to Table 2 for cold working components.

n. Install replacement nominal size bushings using 74D110174 tool set. (A1-F18AC-SRM-200, WP004 37). For bushing information (A1-F18AC-SRM-410, FIG 013 00).

(1) For oversize bushing information, an engineering disposition is required.

o. Ream bushing inside diameter per information and sequence in Table 1, and view B. For drilling machine information (A1-F18AC-SRM-200, WP004 17).

Table 1. Drilling and Reaming Sequence (Continued)

Condition	Drilling Diameter	Reaming Diameter	Drill Motor Required	Detail No. of RE574110004		Detail No. of RE8	Tool Required
	1	1		Nosepiece	Drill Bushing		
Reaming of Bushing After Installation (Step)	-	0.622/ 0.496 +0.002 -0.000	74D110312-1003	131	607	-	SPT67RE174110004
	-	0.6250/ 0.5000 +0.0015 -0.000	Hand Ream	-	608	-	SPT68RE174110004

LEGEND

1 Drill/ream two holes in-line.

2 RE874110004-1, Inner Wing Repair Kit.

Table 2. Cold Working Components For 74A110953 Hinge Half

Nominal Final Hole Size	Pre Cold Work Hole Size +0.003 -0.000	Mandrel		Sleeve	Equipment			
		Number	Diameter ± 0.0002		Inspection Gage	Hydraulic Cylinders Depot Furnished	Nose Assembly	Jaw Assembly
0.8125	0.7745	TD761D- 130 SPL	0.7578	TD761G- 13010 SPL	TD216G5-29	RCH 202	S/A B 3	S/A K 3
1/16 OVER- SIZE	0.8281	1	0.8117	TD761G- 13216 SPL	2			S/A L 3

LEGEND

1

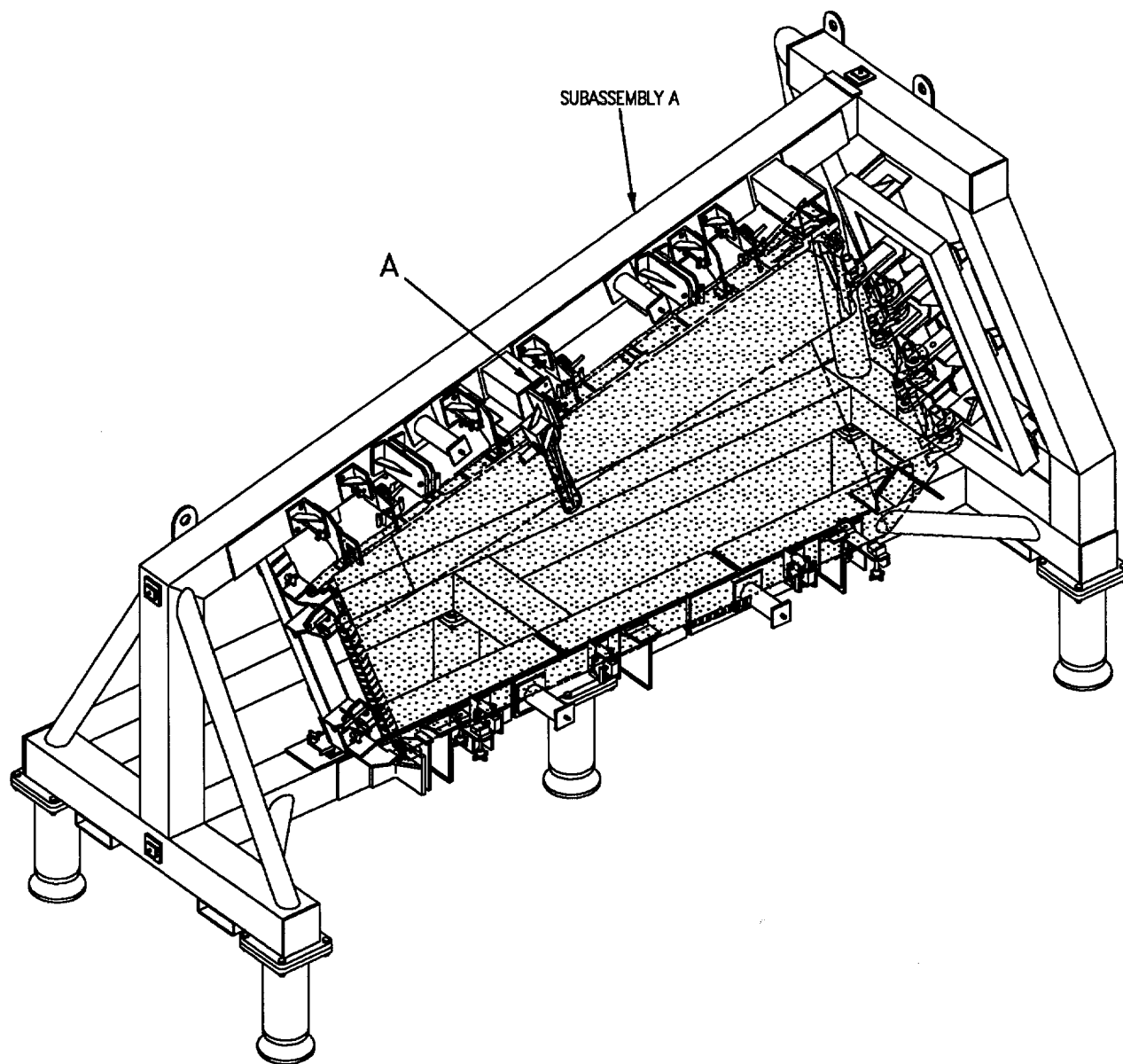
SPT17RE574150002TD.

2

SPT2RE874110004TD.

3

Subassemblies of RE874110004-1, Inner Wing Repair Kit.



04020501

Figure 5. Trailing Edge Flap Outboard Hinge Half (Sheet 1)

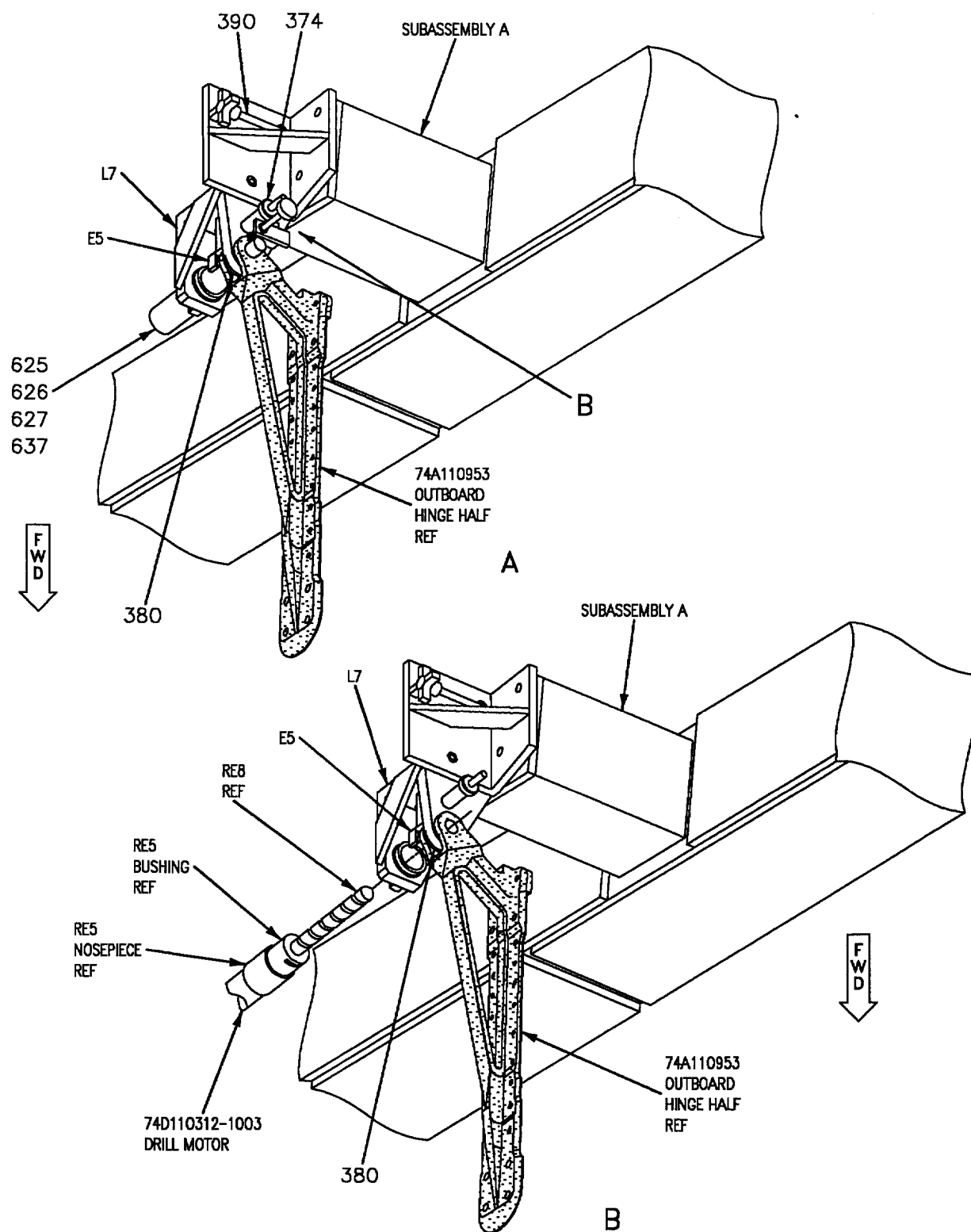


Figure 5. Trailing Edge Flap Outboard Hinge Half (Sheet 2)

Detail No.	Name	Function
Subassembly A	Frame	Main support for holding wing and various details.
E5	Clamp	Secures hinge half in inboard/outboard position.
L7	Support Assembly	Supports 74A110953 outboard hinge half for location.
374	Knurled Knob	Tightens clamp to secure hinge half.
380	Spacer	Locates 74A110953 outboard hinge half in inboard/outboard position.
390	Hand Knob	Secures support assembly to subassembly A.
625	Pilot Pin	Pins outboard hinge half in place.
626	Pin	Pins outboard hinge half in place.
627	Pin	Pins outboard hinge half in place.
637	Step Pin	Pins outboard hinge half in place.

Figure 5. Trailing Edge Flap Outboard Hinge Half (Sheet 3)

DEPOT MAINTENANCE
STRUCTURE REPAIR
LOCATING TOOL, RE174110964,
ACTUATOR ATTACH FITTING, INNER WING

Reference Material

Structure Repair, Wing	A1-F18AC-SRM-210
Lower Inner Wing Skin Fasteners	WP003 02
Inner Wing External Graphite Epoxy Doors 78, 79, 82, 191, 192, and 193	WP005 00
Hole Locating Plate Sets, RE174110956 (Door 79), RE174110965 (Door 78), RE174110966 (Door 82)	WP005 03
Integrated Flight Controls	A1-F18AC-570-300
Trailing Edge Flap Servocylinder (84A-U013 or 84A-V014)	WP040 00
Line Maintenance Access Doors	A1-F18AC-LMM-010
Structure Repair, General Information	A1-F18AC-SRM-200
Accessory Kits and Spray Mist Coolant Tank	WP004 16
Cold Working Fastener Hole Tool Set, Part No. RE174000002-1	WP004 20

Alphabetical Index

Subject	Page No.
Description	1
Drilling Replacement Actuator Support Assembly	2
Installation of Actuator Support Assembly	8
Installation of Locating Tool	2

Record of Applicable Technical Directives

None

- | | | |
|--|-------------|--|
| 1. DESCRIPTION. | RE174110965 | Hole Locating
Plate Set, Door 78 |
| 2. Removal and replacement of a damaged 74A110964
Trailing Edge Flap Actuator Support Assembly (sup-
port) with or without damaged attach holes shall be
done per procedures below. | RE174000002 | Cold Working Fastener
Hole Tool Set |

Materials Required

Support Equipment Required

Part Number or Type Designation	Nomenclature	Specification or Part Number	Nomenclature
RE174110964	Locating Tool, Actuator Attach Fitting	Cerrobend MIL-P-83953-2, Type 1	Solder, Wire Pencil, Aircraft

3. **INSTALLATION OF LOCATING TOOL.** See figure 1.

a. Remove cover (door 78) (A1-F18AC-LMM-010).

b. Remove trailing edge flap actuator (A1-F18AC-570-300, WP040 00).

c. Mark a line, using a marking pencil, on the aft surface of 74A110609 rear spar at the outboard edge of the damaged support, view A.

d. Remove damage support from wing structure by removing bolts and washers.

e. Remove two 74A110656 brackets from support and rear spar lower flange.

f. Inspect removed support for damage at 14 attach point holes and edge of outboard flange.

g. If no damage exists at 14 attach holes and edge of outboard flange, refer to Drilling, Replacement Actuator Support Assembly, this WP.

h. Position locating plate (detail 143) against aft face of 74A110609 rear spar, against lower flange of rear spar, and align notch in outboard edge of locating plate (detail 143) with pencil line on spar face, view A.

i. Secure locating plate (detail 143) in place by tightening thumbscrew (detail 173) until pad (detail 175) presses snugly against upper flange of rear spar, and lock thumbscrew (detail 173) in place by tightening knurled nut (detail 174), view A.

j. Install adjustable assembly (details 150, 151, and 152), view B.

(1) Position forward locator (detail 152) notch on notched locator (detail 149), view B.

(2) Position inboard locator (detail 151) against inner closure rib, and resting on lower skins, view C.

(3) Tighten aft locator (detail 150) to extend the assembly and secure locating plate (detail 143) to aft face of rear spar, view B.

(4) Tighten knurled nut (detail 168) to lock assembly in extended position, view B.

(5) To maintain position of locating plate (detail 143) apply temporary bonding material to locating plate (detail 143) and spar.

k. Insert threaded pin (detail 156) and bushing (detail 164) through locating plate (detail 143) and thread pin into spar gang channel, 14 places. Tighten until pin bottoms out on spar, but do not over tighten, view D.



Solder, Wire

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l. Pot bushings (detail 164) in locating plate (detail 143) using melted cerrobend per Hole Locating Plate Set Accessory Kit (A1-F18AC-SRM-200, WP004 16).

m. Remove threaded pins (detail 156) from spar gang channel, 14 places, view D.

n. Remove adjustable assembly (details 150, 151, and 152) by loosening knurled nut (detail 168), and aft locator (detail 150), view B.

o. Loosen knurled nut (detail 174), retract thumbscrew (detail 173) and remove locating plate (detail 143) from rear spar, view A.

4. **DRILLING REPLACEMENT ACTUATOR SUPPORT ASSEMBLY.** See figure 2. For locating drill bushings from potted locating plate, do steps a thru i. For locating drill bushings from damaged support, do steps j thru r.

a. Clamp drill plate (detail 144) in bench vise, view A.

b. Slide locating plate (detail 143), with bushings potted in, into position on drill plate (detail 144) under clamps (details 145 and 146) until contacting locator block (detail 147) and stop pin (detail 158), view A.

c. Snug clamps (detail 145 and 146) in toward center of tool and tighten cap screws (detail 162) to secure locating plate (detail 143) in place, view A.

d. Insert step pin (detail 157) and bushing (detail 163) through drill plate (detail 144) and into bushings (detail 164) that are potted into locating plate (detail 143), view B.

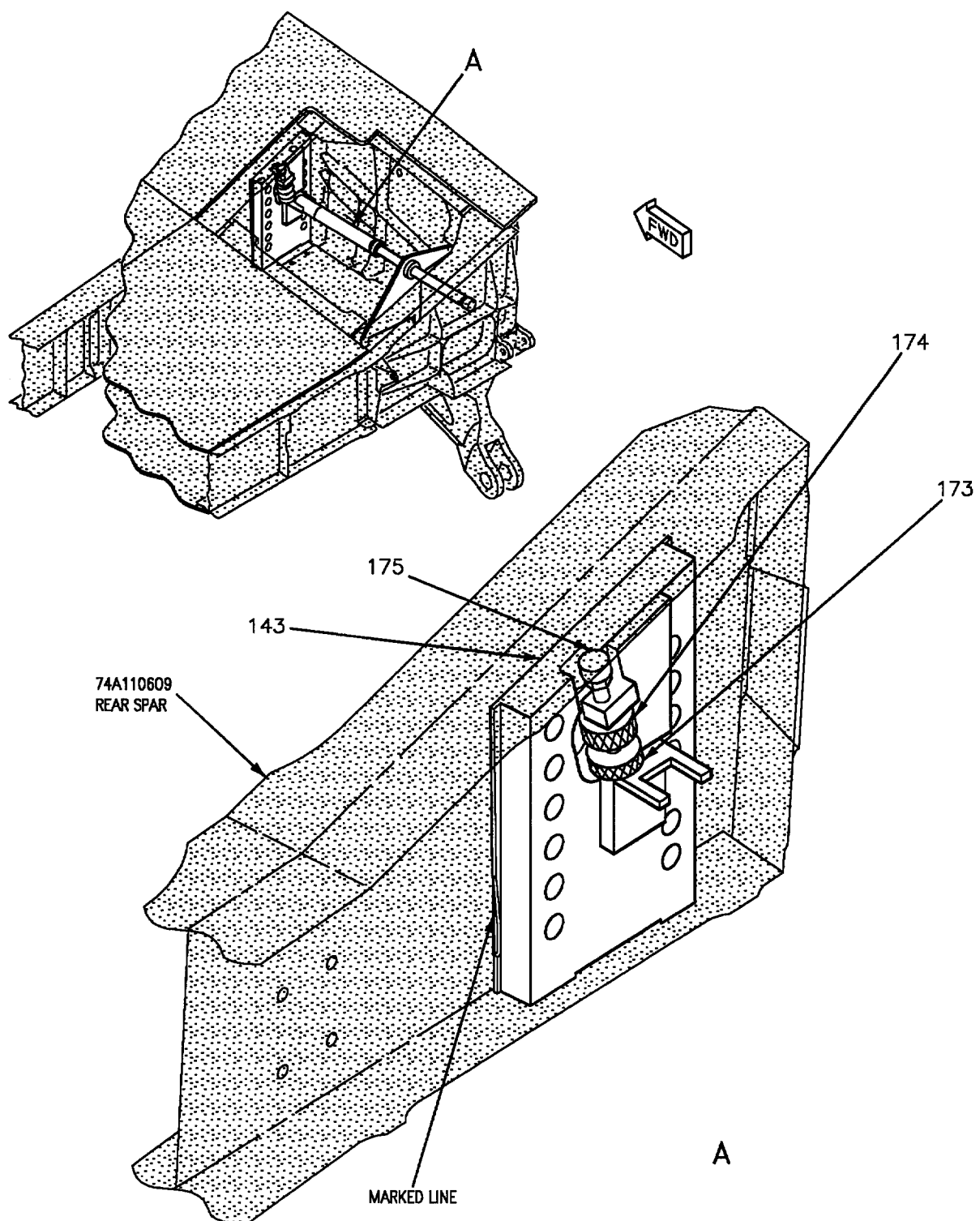
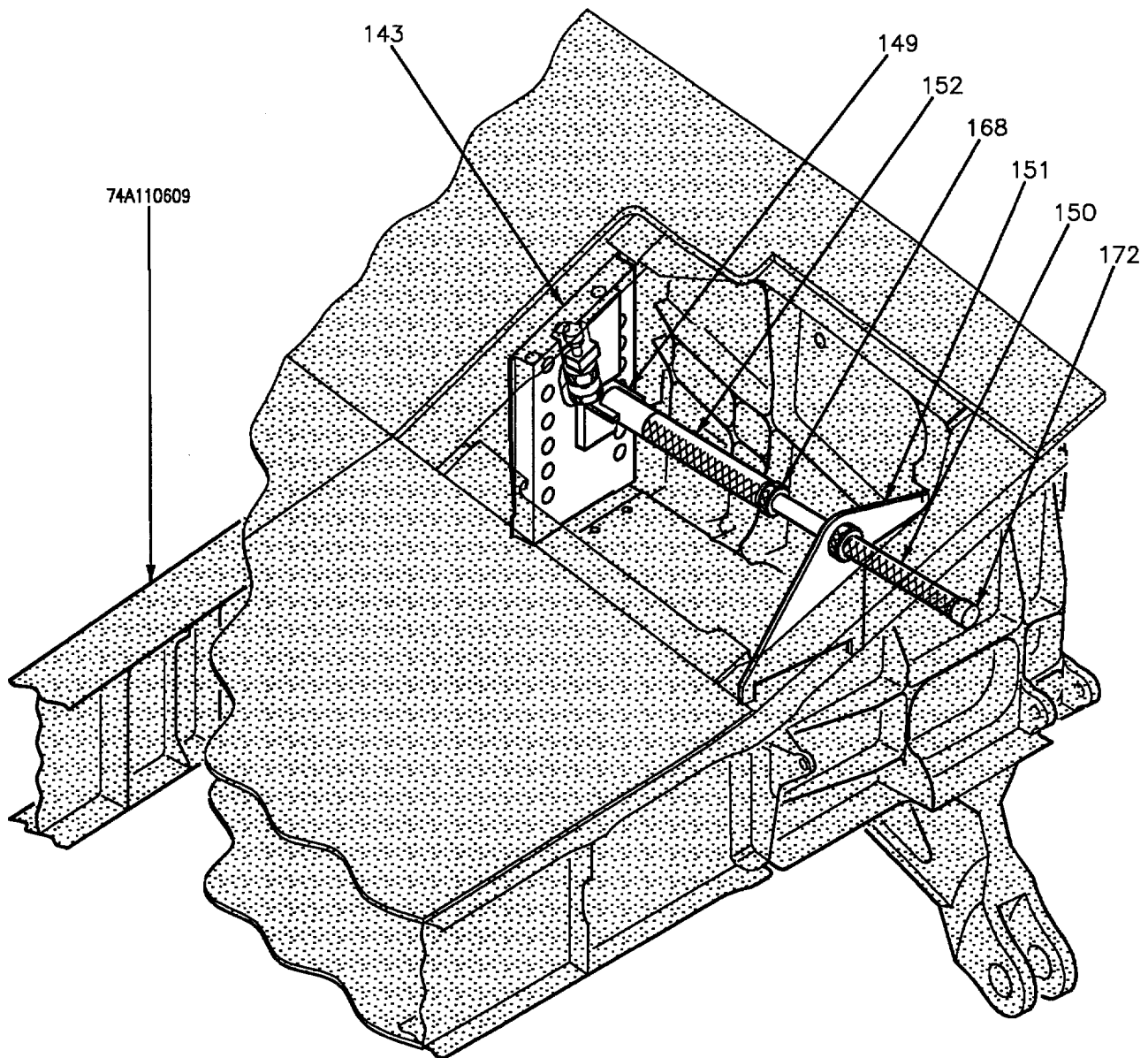


Figure 1. Installation of RE174110964 Locating Tool (Sheet 1)



B

Figure 1. Installation of RE174110964 Locating Tool (Sheet 2)

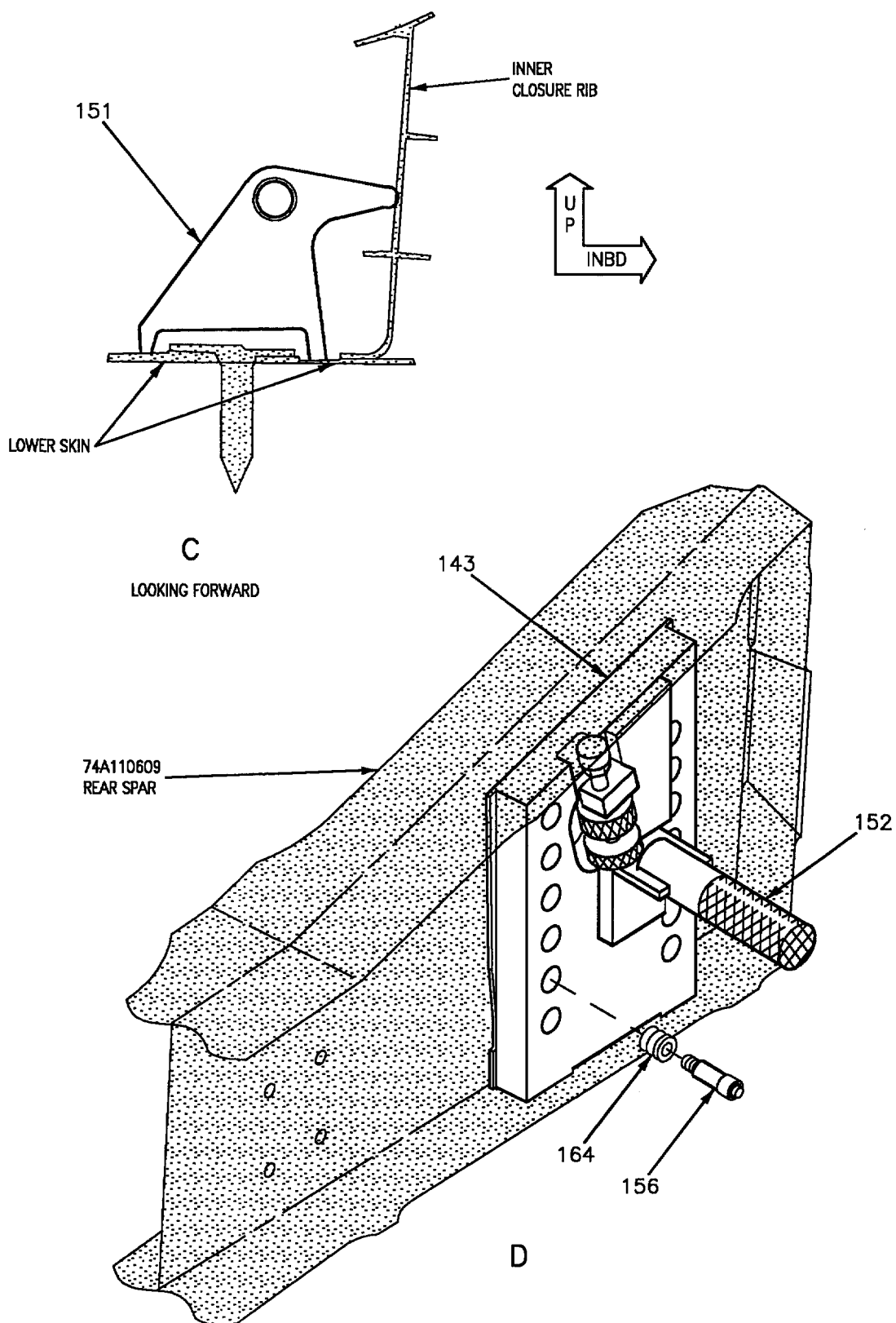


Figure 1. Installation of RE174110964 Locating Tool (Sheet 3)

Detail No.	Name	Function
143	Locating Plate	Locates drill bushings from existing spar fastener holes.
149	Notched Locator	Locates adjustable assembly to detail 143.
150	Aft Locator	Locates adjustable assembly to aft spar.
151	Inboard Locator	Locates adjustable assembly at inboard closure rib.
152	Forward Locator	Locates adjustable assembly to detail 143.
156	Threaded Pin	Locates bushings from existing holes in spar.
164	Bushing	Used to locate drill bushings in detail 143.
168	Knurled Nut	Locks detail 152 in place.
172	Swivel Toggle Pad	Contacts surface of aft spar to support adjustable assy.
173	Thumb Screw	Secures detail 143 in structure.
174	Knurled Nut	Locks detail 173 in place.
175	Pad	Contacts rear spar to secure detail 143 in structure.

Figure 1. Installation of RE174110964 Locating Tool (Sheet 4)



Solder, Wire

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e. Pot bushings (detail 163) in drill plate (detail 144) using melted cerrobend per Hole Locating Plate Set Accessory Kit (A1-F18AC-SRM-200, WP004 16).

f. Remove step pins (detail 157), view B.

g. Loosen cap screws (detail 162) and retract clamps (details 145 and 146), view A.

h. Remove locating plate (detail 143), view A.

i. Go to step s for drilling replacement support.

j. Clamp drill plate (detail 144) in bench vise, view C.

NOTE

Be sure no wear damage exists at outboard flange edge and at all 14 attach point holes before continuing.

k. Slide damage support into position on drill plate (detail 144) under clamps (details 145 and 146) until contacting locator block (detail 147) and stop pin (detail 158), view C.

l. Snug clamps (details 145 and 146) in toward center of support and tighten cap screws (detail 162) to secure support in place, view C.

m. Insert threaded pins (detail 156) and bushings (detail 163 and 167) through drill plate (detail 144) and into holes in damaged support, view D.

n. Attach washers (detail 166) and nuts (detail 165) to threaded pins (detail 156). Tighten until pins bottom out on damaged support, but do not overtighten, view D.

o. Pot bushings (detail 163) in drill plate (detail 144) using melted cerrobend per Hole Locating Plate Set Accessory Kit (A1-F18AC-SRM-200, WP004 16).

p. Remove nuts (detail 165), washers (detail 166), threaded pins (detail 156) and bushings (detail 167), view D.

q. Loosen cap screws (detail 162) and retract clamps (details 145 and 146), view C.

r. Remove damaged support from drill plate (detail 144), view C.

s. Get replacement support assembly.

t. Slide replacement support assembly into position on drill plate (detail 144) under clamps (details 145 and 146) until contacting locator block (detail 147) and stop pin (detail 158), view E.

u. Snug clamps (details 145 and 146) in toward center of replacement support and tighten cap screws (detail 162) to secure support in place, view E.

v. Insert traveler bushing (detail 25) into bushing (detail 163) at upper/inboard hole in drill plate (detail 144) and drill 0.2344 diameter hole, view F.

w. Remove traveler bushing (detail 25) and insert step pin (detail 177) through bushing (detail 163) and into drilled holes, view F.

x. Insert traveler bushing (detail 25) into bushing (detail 163) at lower/outboard hole in drill plate (detail 144) and drill 0.2344 diameter hole, view F.

y. Remove traveler bushing (detail 25) and insert step pin (detail 177) through bushing (detail 163) and into drilled hole, view F.

z. With both step pins (detail 177) installed and clamps (detail 145 and 146) engaged, drill 0.2344 diameter holes at remaining 12 locations using traveler bushing (detail 25), view F.

aa. Remove traveler bushing (detail 25) and step pins (detail 177), view F.

ab. Loosen cap screws (detail 162) and retract clamps (detail 145 and 146), view E.

ac. Remove replacement support from drill plate (detail 144).

ad. Cold work 14 drilled holes using RE174000002 (A1-F18AC-SRM-200, WP004 20).

ae. Reinstall cold worked replacement support into position on drill plate (detail 144) and clamp in place, view E.

af. Insert step pins (detail 178) at upper/inboard and lower/outboard holes through drill plate (detail 144) and into support, view G.

ag. Insert traveler bushing (detail 24) into bushing (detail 163) next to either step pin (detail 178) in drill plate (detail 144) and ream hole to 0.2500 diameter, view G.

ah. Remove traveler bushing (detail 24) and insert step pin (detail 179) through bushing (detail 163) and into reamed hole, view G.

ai. Remove step pin (detail 178) next to reamed hole location, view G.

aj. Insert traveler bushing (detail 24) into bushing (detail 163) next to remaining step pin (detail 178) in drill plate (detail 144) and ream hole to 0.2500 diameter, view G.

ak. Remove traveler bushing (detail 24) and insert step pin (detail 179) through bushing (detail 163) and into reamed hole, view G.

al. Remove remaining step pin (detail 178), view G.

am. With both step pins (detail 179) installed and clamps (details 145 and 146) engaged, ream remaining 12 holes to 0.2500 diameter using traveler bushing (detail 24) view G.

an. Remove traveler bushing (detail 24) and step pins (detail 179), view G.

ao. Loosen cap screws (detail 162) and retract clamps (details 145 and 146), view E.

ap. Remove replacement support from drill plate (detail 144).

5. INSTALLATION OF ACTUATOR SUPPORT ASSEMBLY. See figure 3.

a. Install 74A110656 brackets on support and rear spar flange. For rear spar flange fasteners (WP003 02).

b. Position drilled and reamed support assembly on 74A110609 rear spar and install bolts and washers, view A.

c. Insert traveler bushing (detail 23) in lower mold line fastener holes and drill six 0.1285 diameter pilot holes, view B.

d. Install lower mold line fasteners. For fasteners (WP003 02).

e. Locate and drill upper mold line fastener holes using RE174110965 Hole Locating Plate Set (WP005 03).

f. Install plate nuts on support upper flange. For attaching hardware (WP005 00).

g. Install trailing edge flap actuator (A1-F18AC-570-300, WP040 00).

h. Install cover (door 78) (A1-F18AC-LMM-010).

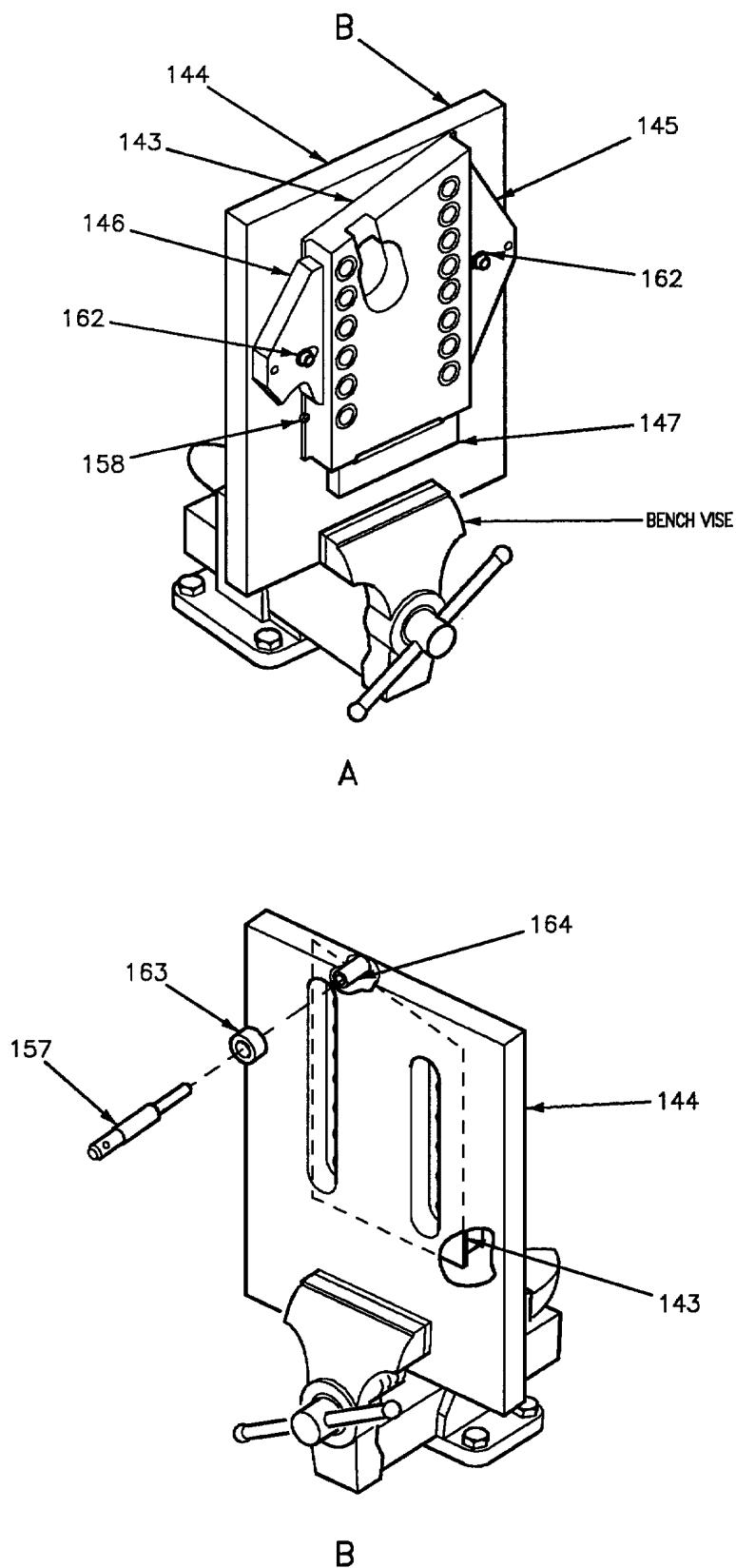


Figure 2. Drilling Holes in Replacement 74A110964 Support Assembly (Sheet 1)

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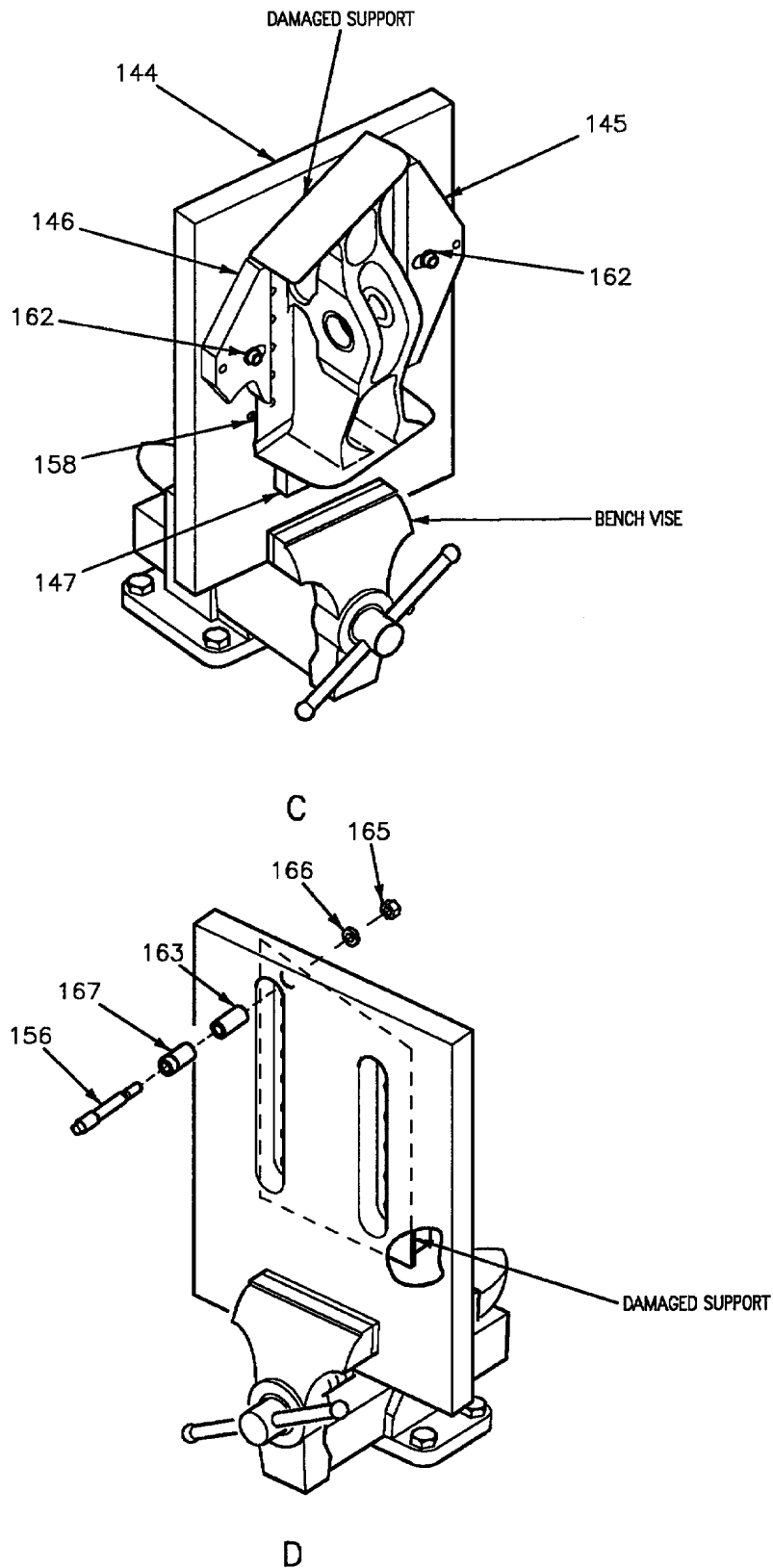
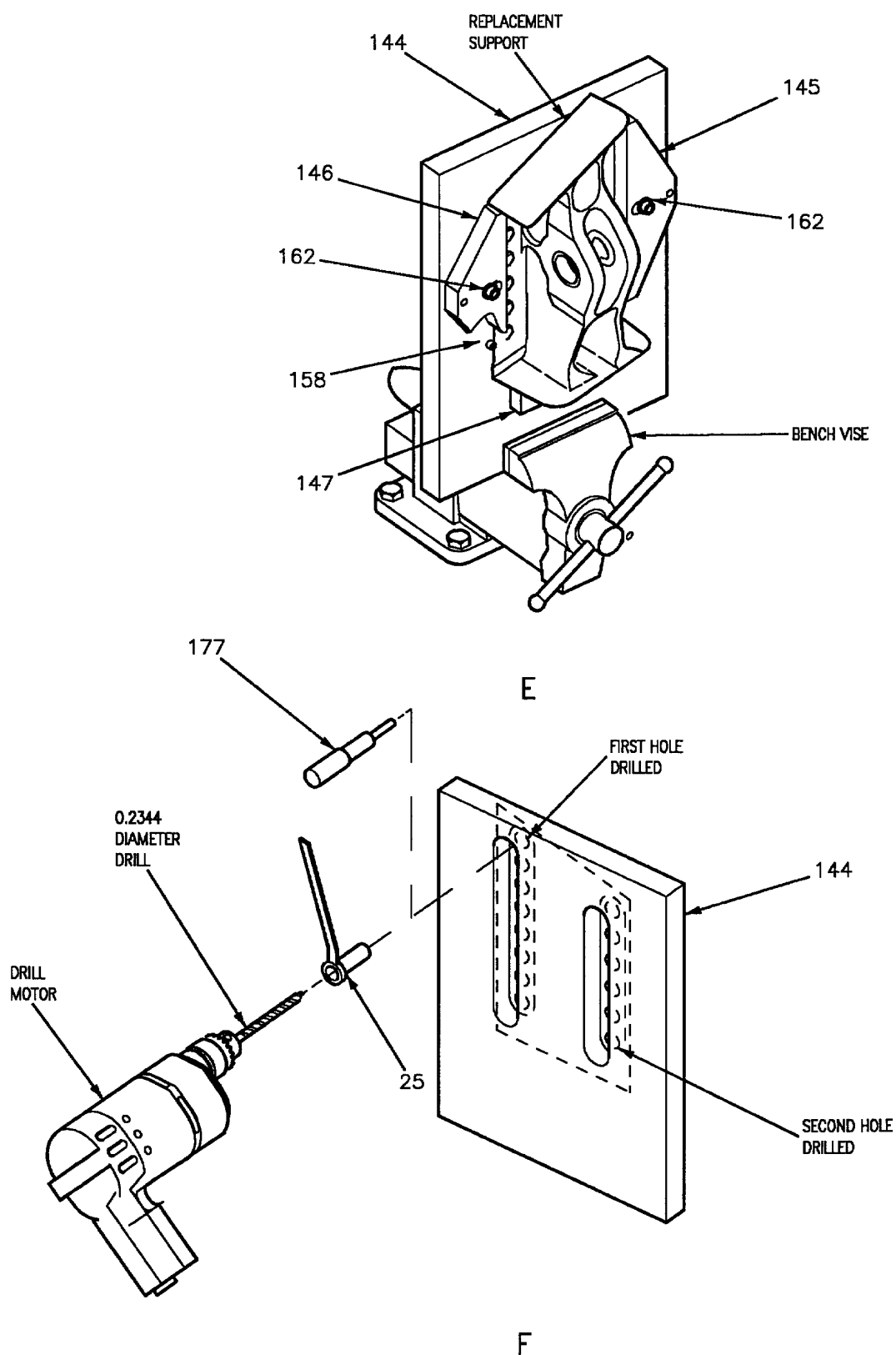
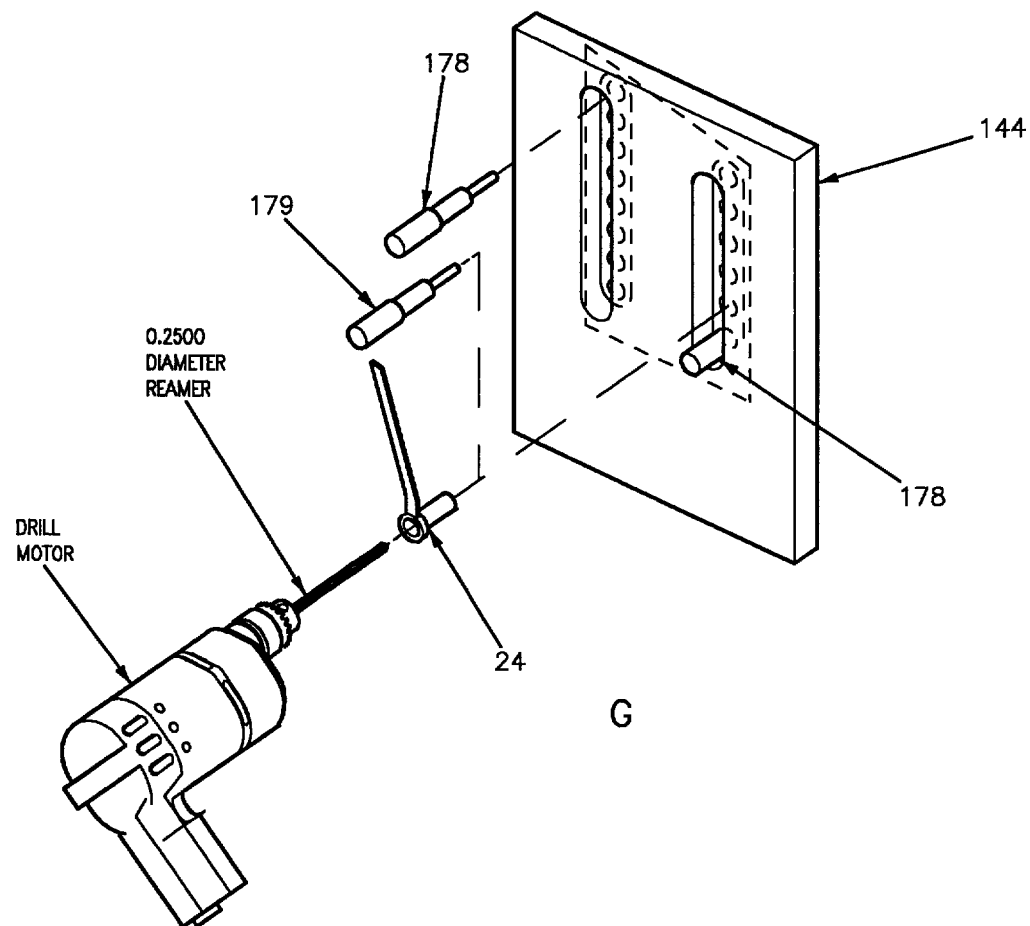


Figure 2. Drilling Holes in Replacement 74A110964 Support Assembly (Sheet 2)



04030203

Figure 2. Drilling Holes in Replacement 74A110964 Support Assembly (Sheet 3)

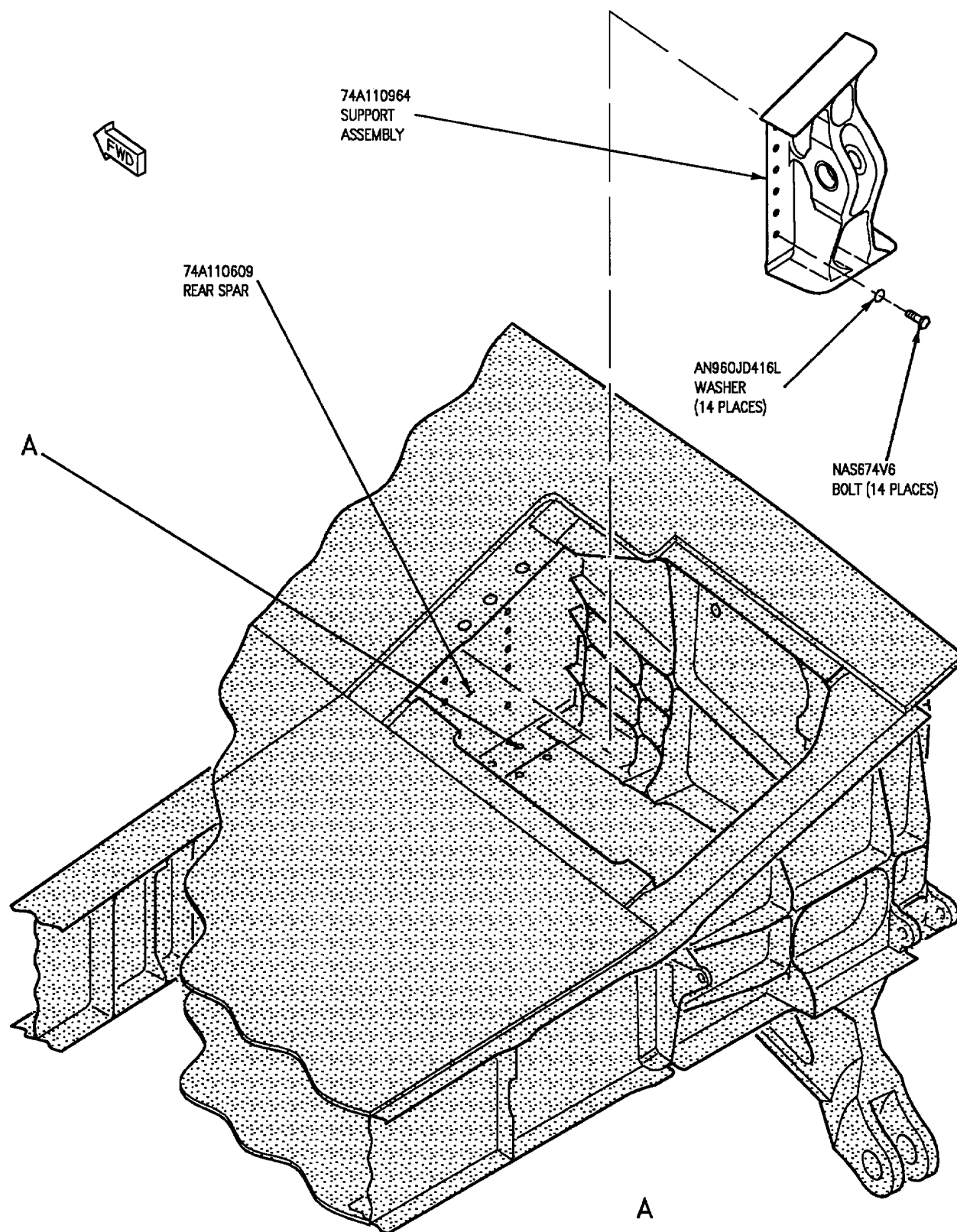


04030204

Figure 2. Drilling Holes in Replacement 74A110964 Support Assembly (Sheet 4)

Detail No.	Name	Function
24	Traveler Bushing	Guides reamer for holes in cold worked support.
25	Traveler Bushing	Guides drill for locating holes in replacement support.
143	Locating Plate	Locates drill bushings from existing spar fastener holes.
144	Drill Plate	Locates drill bushings for drilling and reaming holes.
145, 146	Clamps	Secures detail 143 or support to detail 144.
147	Locator Block	Locates detail 143 or support at up/down position.
156	Threaded Pin	Locates bushings from existing holes in spar.
157	Step Pin	Locates drill bushings from detail 143.
158	Stop Pin	Locates detail 143 or support at outboard position.
162	Cap Screw	Tightens clamps on detail 143 on support.
163	Bushing	Guides and locates drill and reamer for drilling holes.
164	Bushing	Used to locate drill bushings in detail 143.
165	Nut	Retains detail 156.
166	Washer	Installs on detail 156.
167	Bushing	Guides detail 156 into support.
177	Step Pin	Retains location of support during drilling.
178	Step Pin	Retains location of support at cold worked holes during reaming.
179	Step Pin	Retains location of support during reaming.

Figure 2. Drilling Holes in Replacement 74A110964 Support Assembly (Sheet 5)



04030301

Figure 3. Installation of 74A110964 Actuator Support Assembly (Sheet 1)

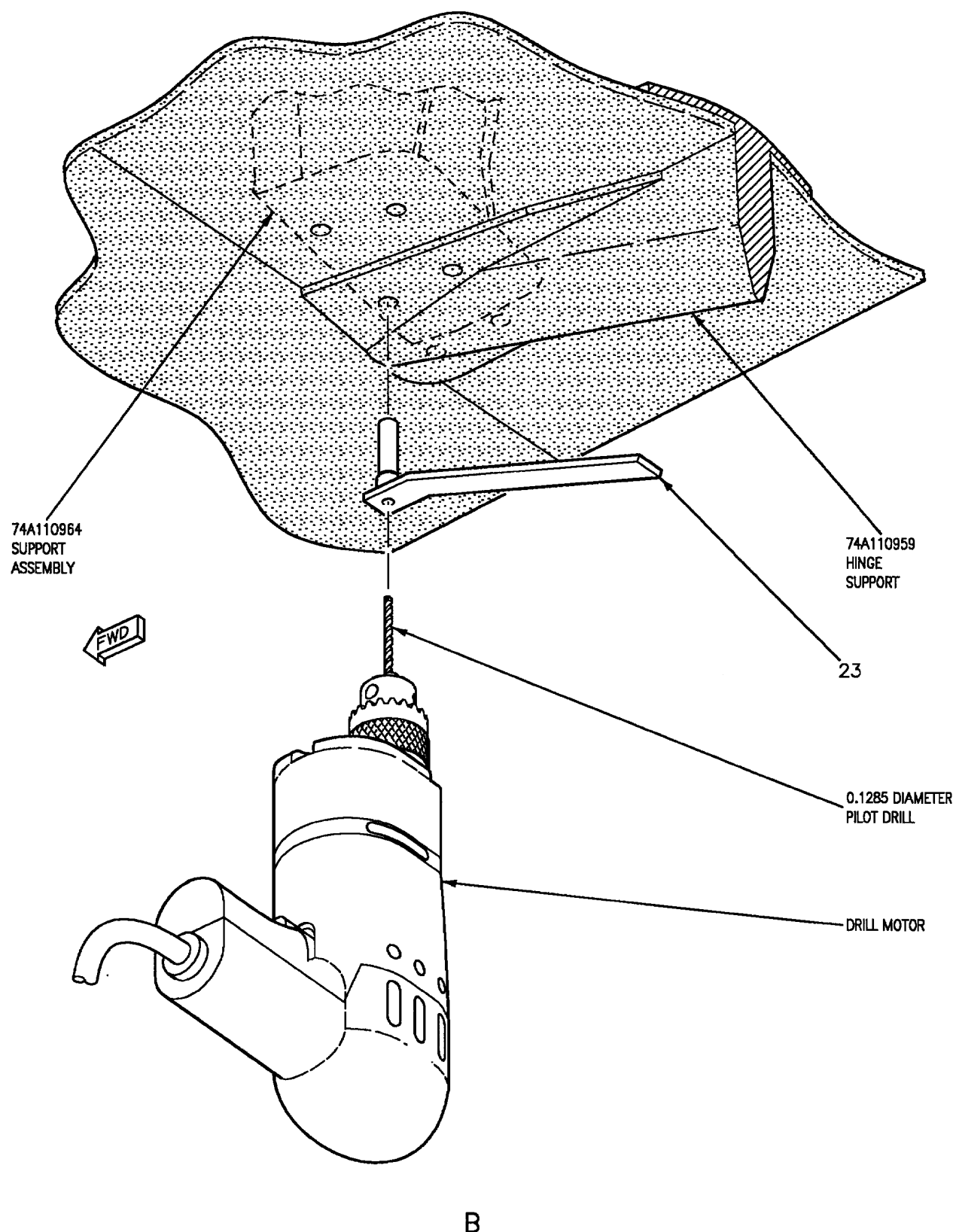


Figure 3. Installation of 74A110964 Actuator Support Assembly (Sheet 2)

Detail No.	Name	Function
23	Traveler Bushing	Guides drill for locating holes through lower mold line.

Figure 3. Installation of 74A110964 Actuator Support Assembly (Sheet 3)

DEPOT MAINTENANCE

STRUCTURE REPAIR

PYLON BUSHING TOOL SET, REMOVAL AND INSTALLATION

RE174110606

Reference Material

Structure Repair, Wing	A1-F18AC-SRM-210
Inner Wing Hole Numbers	WP003 03
Line Maintenance Access Doors	A1-F18AC-LMM-010
Structure Illustrated Parts Breakdown, Wing	A1-F18AC-SRM-410
Structure Assy, Wing, Inner	FIG 013 00
Structure Repair, General Information	A1-F18AC-SRM-200
Accessory Kits and Spray Mist Coolant Tank	WP004 16
Drilling Machines	WP004 17
Cold Working Fastener Hole Tool Set, Part No RE174000002-1	WP004 20

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Drilling Holes at Inboard and Outboard Pylon Positions	10
Inspection of Pylon Post Bushings	69
Installation of Pylon Bushing Tool Set for Wing in Maintenance Fixture	3
Installation of Pylon Bushing Tool Set on Wing	9
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Record of Applicable Technical Directives

None

1. DESCRIPTION.

2. The pylon bushing tool set (tool set) is used to remove and replace damaged wing pylon bushings; to bore/ream replacement bushings and bushing housings; to bore fuel/air/electrical holes and drill attach holes in skin and structure. All operations can be done with wing installed on aircraft, or with wing installed in RE174110004 inner wing maintenance fixture (fixture).

Support Equipment Required

Part Number or Type Designation	Nomenclature
RCH-123	Hydraulic Cylinder

3. REMOVAL OF PYLON POST BUSHINGS. See figure 1. Bushings can be removed from wing while attached to aircraft or installed in maintenance fixture.

Materials Required

None



Bushing removal/installation tools must be supported, when tool set is used on aircraft, to avoid injury or damage to wing and equipment.

4. Inboard Bushings. See views A thru D. All detail numbers in this paragraph are part of SPT13-RE174110606TD.

a. Remove door 20 (A1-F18AC-LMM-010).

b. Remove bushing supports 74A110848, and wear plate 74A110847 (A1-F18AC-SRM-410, FIG 013 00).

c. Remove upper bushing:

(1) Assemble bushing puller (details 1, 3, 5, 9, and 16), view A.

(2) Set pulling rod (detail 5) and pulling cylinder (detail 3) to dimension shown in detail B, and turn each pulling rod (detail 5) to retracted position.

(3) Install bushing puller assembly into pylon bushing hole, view A.

(4) Turn each pulling rod (detail 5) counterclockwise to extended position so that slots align with inner sleeve (detail 9) slots, view C.

(5) Tighten jam nuts (detail 1) to bring pulling rod (detail 5) and pulling cylinder (detail 3) into contact with structure, keeping slots aligned while tightening, views A and C.

(6) Slide cover (detail 2) onto connection rod (detail 16) so it engages the pulling cylinder (detail 3), view A.

NOTE

Be sure hydraulic cylinder is fully retracted.

(7) Slide hydraulic cylinder on, and secure with knurled nut (detail 7), view A.

(8) Attach hydraulic hoses to hydraulic cylinder, and air feed line to the pump.

(9) Activate pump, and pull out bushing. Remove tool and bushing from wing.

(10) Inspect structure for inside diameter of 3.125 inches.

d. Remove lower bushing:

(1) Assemble bushing puller (details 1, 9, 11, and 16), view D.

(2) Set pulling rods (detail 11) and inner sleeve (detail 9) to dimension shown in detail E. Turn each pulling rod (detail 11) clockwise, until it contacts the pulling rod next to it, to retracted position.

(3) Assemble parts (detail 10, 12, 13, and 14), view D.

(4) Slide bushing insert (detail 12) and bushing cylinder (detail 14) partly on inner sleeve (detail 9) and into pylon bushing hole. Insert bushing insert (detail 12) into lower bushing and pulling rods (detail 11) past upper bushing flange, view D.

(5) Turn each pulling rod (detail 11) counterclockwise to extended position, so that slots align with inner sleeve (detail 9) slots, view C.

(6) Slide cover (detail 4) onto tool over bushing cylinder (detail 14), view D.

NOTE

Be sure hydraulic cylinder is fully retracted.

(7) Slide hydraulic cylinder onto connection rod (detail 16) and secure with knurled nut (detail 7). Tighten knurled nut (detail 7) to contact pulling rod (detail 11) and pushing cylinder (detail 14) and wing, view D.

(8) Attach hydraulic hoses to hydraulic cylinder and air feed line to the pump.

(9) Push out bushing. Disassemble and remove the bushing and tool from wing.

(10) Inspect structure for inside diameter of 4.375 inches.

5. Outboard Bushing. See views F and G. All detail numbers in this paragraph are part of the SPT15-RE174110606TD.

a. Remove door 21 (A1-F18AC-LMM-010).

b. Remove upper pylon cover 74A110930 (A1-F18AC-SRM-410, FIG 013 00).

c. Remove retainer assemblies 74A110845 and wear plate 74A110846 (A1-F18AC-SRM-410, FIG 013 00).

d. Remove bushing:

(1) Insert bushing guide (detail 4) through pylon bushing from lower to upper mold line, view F.

(2) Slide spacer (detail 19) for left side, or spacer (detail 12) for right side, onto bushing guide (detail 4) by inserting pin (detail 20) into slot on bushing guide (detail 4), view G. Slot must be toward aft side of wing.

(3) Secure bushing guide (detail 4) in place using knurled nut (detail 5) and handle (detail 6), view F.

(4) Adjust bushing guide (detail 4) and spacer (detail 19 or 12) to fit knurled nut (detail 5) next to bushing upper outer mold line, view F.

(5) Tighten knurled nut (detail 5) until lower flange of bushing guide (detail 4) is approximately flush with bushing lower outer mold line, view F.

NOTE

Be sure hydraulic cylinder is fully retracted.

(6) Slide connection rod (detail 16) completely through hydraulic cylinder, view F.

(7) Slide puller support (detail 13) over connection rod (detail 16), view F.

(8) Lift puller support (detail 13) and connection rod (detail 16) up and thread connection rod (detail 16) into bushing guide (detail 4), view F.

(9) Attach hydraulic hoses to hydraulic cylinder and air feed line to the pump.

(10) Pull out bushing. Remove tool and bushing from wing.

(11) Inspect structure for inside diameter of 3.125 inches at upper hole, and 4.375 inches at lower hole.

6. INSTALLATION OF PYLON BUSHING TOOL SET FOR WING IN MAINTENANCE FIXTURE.

See figure 2. Installation for both inboard and outboard locations are described together, with differences indicated as required.

Support Equipment Required

Part Number or Type Designation	Nomenclature
RE174110004	Maintenance Fixture, Inner Wing

Materials Required

None

a. Prepare inner wing maintenance fixture for installation of pylon bushing tool.

(1) Attach support assembly (detail U6) of fixture to upper beam of fixture using hand knobs (detail 838), view G.

(a) Attach locator (detail U9) of fixture to support assembly (detail U6) of fixture using L-pins (detail 835) and socket head cap screws (detail 834), view G.

(2) For inboard pylon position, attach support assembly (detail U4) of fixture to lower beam of fixture using hand knobs (detail 838), view H.

(a) Attach locator (detail U7) of fixture to support assembly (detail U4) of fixture using L-pins (detail 835) and socket head cap screws (detail 834), view H. Tighten socket head cap screws (detail 834) finger tight only.

(3) For outboard pylon position, attach support assembly (detail U5) of fixture to lower beam of fixture using hand knobs (detail 838), view J.

(a) Attach locator (detail U8) of fixture to support assembly (detail U5) of fixture using L-pin (detail 835) and socket head cap screws (detail 834), view J. Tighten socket head cap screws (detail 834) finger tight only.

b. For inboard pylon position:

(1) Install subassemblies C and G using L-pins (detail 204) and hand knobs (detail 108), view B.

(2) Install subassemblies E and K using L-pins (detail 213) and hand knobs (detail 108), view C.

c. For outboard pylon position:

(1) Install subassemblies D, F, H and J using L-pins (detail 213) and hand knobs (detail 108), view C.

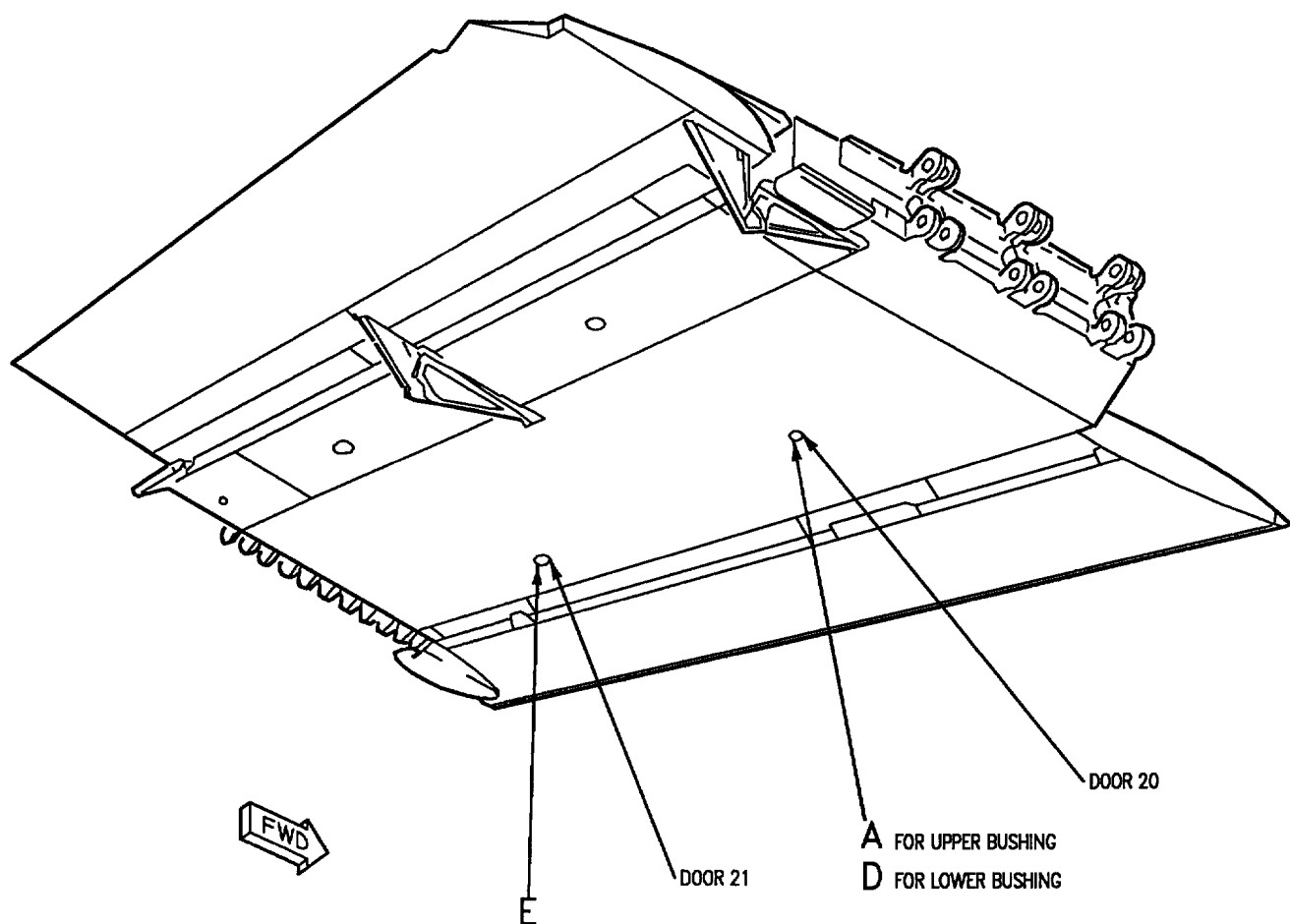
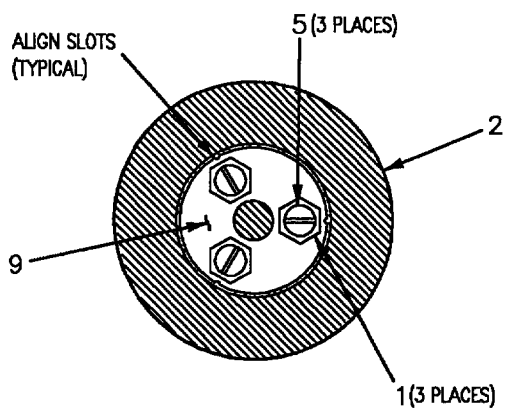
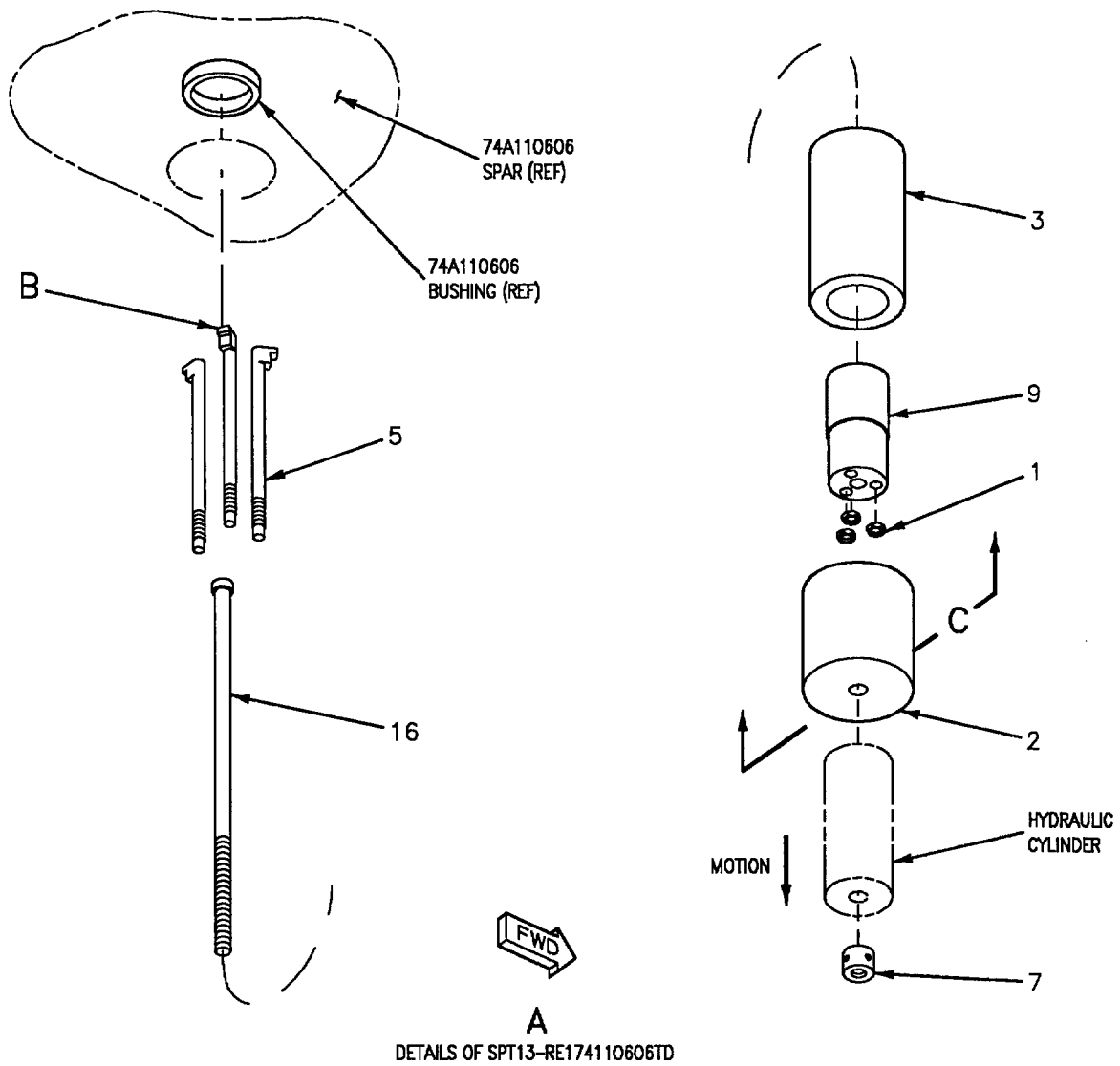


Figure 1. Removal of Pylon Post Bushings (Sheet 1)



C

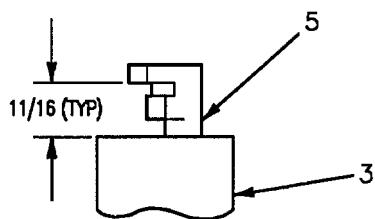


Figure 1. Removal of Pylon Post Bushings (Sheet 2)

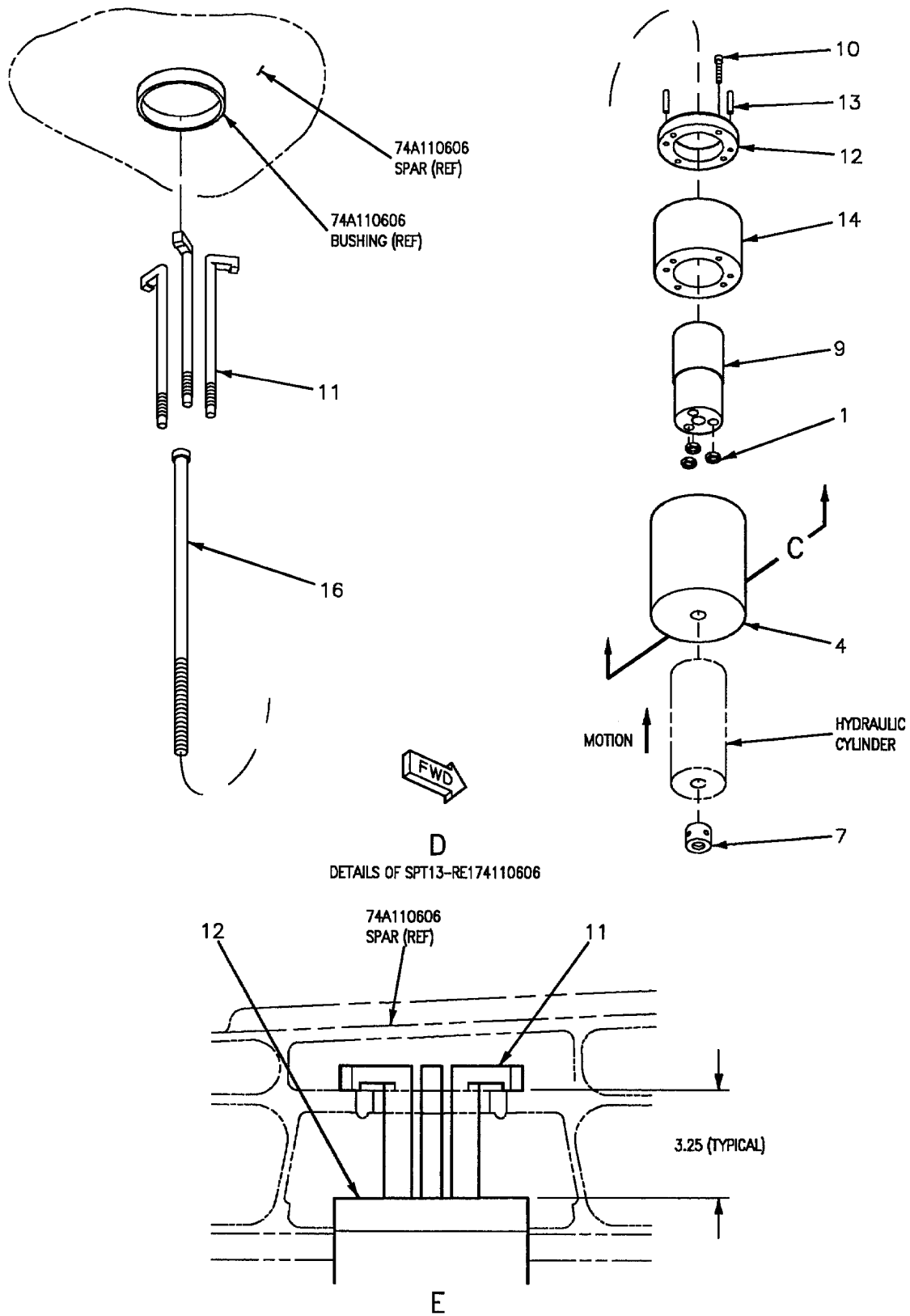


Figure 1. Removal of Pylon Post Bushings (Sheet 3)

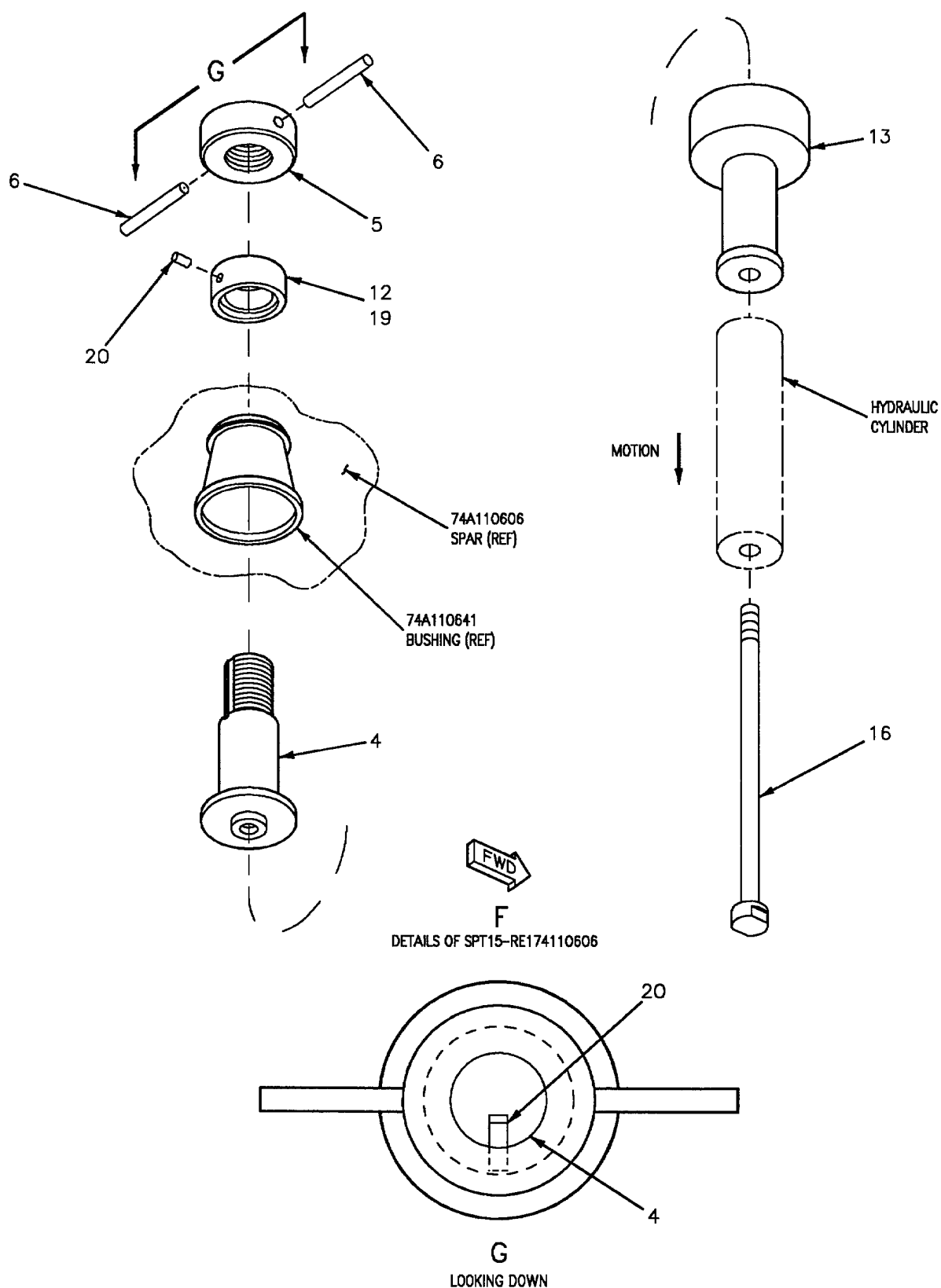


Figure 1. Removal of Pylon Post Bushings (Sheet 4)












Detail No.	Name	Function
1	Jam Nut	Tightens connection rod against bushing guide.
2	Cover	Covers puller mechanism for removal of upper inboard bushing.
3	Pulling Cylinder	Fits into inboard bushing for removal of upper bushing.
4 	Cover	Covers puller mechanism for removal of lower inboard bushing.
4 	Bushing Guide	Guides and aligns bushing puller in outboard pylon bushing.
5 	Pulling Rod	Pulls cylinder for removal of upper inboard pylon bushing.
5 	Knurled Nut	Tightens spacer against upper part of outboard bushing.
6	Handle	Turns knurled nut for outboard pylon bushing.
7	Knurled Nut	Secures hydraulic cylinder to bushing puller tool.
9	Inner Sleeve	Fits inside pulling cylinder.
10	Socket Head Cap Screw	Attaches bushing insert to pushing cylinder.
11	Pulling Rod	Pulls cylinder for removal of lower inboard pylon bushing.
12 	Bushing Insert	Aligns cylinder with lower pylon bushing.
12 	Spacer	Spacer pushes out outboard pylon bushing for right side.
13 	Pin	Locates bushing insert on pushing cylinder.
14	Pushing Cylinder	Removes lower inboard pylon bushing.
16  	Connection Rod	Attaches hydraulic cylinder to bushing puller tool.
19	Spacer	Spacer pushes out outboard pylon bushing for left side.
20	Pin	Engages slot in bushing guide for proper alignment of tool.
<p style="text-align: center;">LEGEND</p> <p> Part of SPT13-74A110606TD.</p> <p> Part of SPT15-74A110606TD.</p>		

Figure 1. Removal of Pylon Post Bushings (Sheet 5)

d. Attach applicable drill plate (detail 141, 142, 143, or 144) and shim (detail 146) to frame (detail 11) using flat head cap screws (detail 176), view A.

e. Insert bushing guide (detail 113) into frame (detail 11) and secure with flat head socket cap screws (detail 140), view D.

f. Slide locator (detail 243) to the extended position and secure in place using hand knob (detail 244), both sides of tool, view G.

g. Attach support (detail 56) to tool set forward end using socket head cap screws (detail 834) tightened finger tight, views H or J.

h. Attach support (detail 58) to tool set aft end using socket head cap screws (detail 834) tightened finger tight, view G.

i. Attach hoist to tool set and lift into approximate position at wing in fixture, view E.

j. Locate the tool set by inserting pin (detail 14) for inboard position, or pin (detail 49) for outboard position, into bushing guide (detail 113), views E and F.

k. Rotate tool set and hold to equal thickness gages between locators (detail 243) and locator pins of maintenance fixture at aft end of tool set, views E and G.

l. Hold forward end of tool set to equal thickness gages:

(1) For inboard position, hold equal thickness gages between locators (detail 110) and locator pins of maintenance fixture, views E, H, and K.

(2) For outboard position, attach locators (detail 111) to tool set using hand knobs (detail 164), views E and J.

(3) Hold tool set to equal thickness gages between locators (detail 111) and locator pins of maintenance fixture, views J and K.

m. Turn adjustment nuts (detail 185) as required to set a nominal gap of 0.125, views B and C.

n. Secure tool set in position using c-clamps at both forward and aft locations, view E. Provide protection between clamps and wing.

7. INSTALLATION OF PYLON BUSHING TOOL SET ON WING. See figure 3. Installation for both inboard and outboard locations are described together, with differences indicated as required.

Support Equipment Required

Part Number or Type Designation	Nomenclature
343AS100	Aircraft Lift Trailer or
PDG7558	Aircraft Engine Lift Trailer or
B-1	Maintenance Stand

Materials Required

None

a. For inboard pylon position:

(1) Install subassemblies C and G using L-pins (detail 204) and hand knobs (detail 108), view B.

(2) Install subassemblies E and K using L-pins (detail 213) and hand knobs (detail 108), view C.

b. For outboard pylon position:

(1) Install subassemblies D and H using L-pins (detail 204) and hand knobs (detail 108), view B.

(2) Install subassemblies F and J using L-pins (detail 213) and hand knobs (detail 108), view C.

c. Attach applicable drill plate (details 141, 142, 143, or 144) and shim (detail 146) to frame (detail 11) using flat head socket cap screws (detail 176), view A.

d. Insert bushing guide:

(1) For wing with bushings installed, insert bushing guide (detail 116) into frame (detail 11) and secure with flat head socket cap screws (detail 140), view D.

(2) For wing with bushings removed, insert bushing guide (detail 113) into frame (detail 11) and secure with flat head socket cap screws (detail 140), view D.

e. Attach forward and aft strap guide assemblies (detail 26) to frame (detail 11) using hand knobs (details 182 and 183), view E.

f. Remove pylon attach point covers, and remove the four pylon hook attach bolts and pylon hook from aft spar.



Be careful when lifting frame (detail 11) to lower mold line of wing to avoid damage to wing skins, finish system, or to tool frame or details.

g. Using a lift trailer or maintenance stand, as available, locate frame (detail 11) under wing, align frame drill bushings with applicable pylon attach holes, view F.

h. Turn adjustment nuts (detail 185) as required to set a nominal gap of 0.125, views B and C.

NOTE

Be sure hand knobs (detail 122) are retracted before installing support assemblies.

i. Attach forward support assembly (detail 12) for inboard position or forward support assembly (detail 13) for outboard position, to frame (detail 11) using lock pins (detail 179), views J and K.

j. Attach aft support assembly (detail 36) to frame (detail 11) using lock pins (detail 179), view L.

k. Tighten hand knob (detail 122) on support on support assemblies (details 12, 13, and 36) to support and align frame (detail 11) on wing, views J, K, and L.

l. Attach strap rings (detail 136) to forward and aft strap guide assemblies (detail 26), view M.

m. Attach strap (detail 37) to strap rings (detail 136) and tighten strap (detail 37), view M.

n. For wing with bushings installed, insert pylon bushing pin (detail 14) for inboard, or pylon bushing pin (detail 49) for outboard into bushing guide (detail

116) by adjusting location of frame (detail 11) until pin will insert. Secure pin (detail 14) or pin (detail 49) with lock buttons (detail 139), view G.

o. For wing with bushings removed, insert pylon bushing pin (detail 51, 52, or 53), as required, into bushing guide (detail 113) by adjusting location of frame (detail 11) until pin will insert. Secure pin with lock buttons (detail 139), view G.

p. Rotate frame (detail 11) on pylon bushing pin (detail 14) or pin (detail 49) as required to install sub-assembly N in one aft spar pylon hook attach point hole and secure with lock button (detail 130), view H. Align arrows on subassembly N with arrows on frame (detail 11) for correct position.

q. Tighten hand knobs (detail 122) on support assemblies (details 12, 13, and 36) to snug frame to lower mold line, views J, K, and L. Provide protection for wing surface between pad (detail 127) and skin.

r. Install clamps to secure frame to wing at subassemblies C, E, G, and K for inboard position and subassemblies D, F, H, and J for outboard position.

s. Remove pylon bushing pin (detail 14) or pin (detail 49) from bushing guide (detail 116), view G.

8. DRILLING HOLES AT INBOARD AND OUTBOARD PYLON POSITIONS. See figure 4.

Support Equipment Required

Part Number or Type Designation	Nomenclature
74D110316-1001	Drilling Machine, Hydro Check Feed, 500 and 2000 RPM
74D110312-1001	Drilling Machine, Rack Feed
74A110325-1001	Tool Kit, Aircraft Structural Repair
RE574000002-1	Accessory Kit, Drilling Machine
RE174000002-1	Tool Set, Cold Work Fastener Holes

Materials Required

None

9. For Inboard Pylon Position.

a. Drill four pylon hook attach holes using 74D110316-1001 drilling machine. For drilling machine (A1-F18AC-SRM-200, WP004 17). For cutters from Aircraft Structural Repair Tool Set, and drill bushings from Drilling Machines Accessory Kit (A1-F18AC-SRM-200, WP004 16).

b. Cold work drilled holes using Cold Work Fastener Hole Tool Set (A1-F18AC-SRM-200, WP004 20).

c. Install subassembly N in one of the drilled holes and secure with lock buttons (detail 130), view A.

d. Insert drill guide (detail 121) into subassembly A and install both into frame (detail 11) at applicable location for drilling, and secure with lock buttons (detail 139), view B.

e. Drill a 0.500 diameter pilot hole in lower skin using 74D110312-1001 drilling machine and SPT10-RE174110606TD, view C. For drilling machine (A1-F18AC-SRM-200, WP004 17).

f. Repeat steps d and e for two other pylon attach holes.

g. Install four jackscrews (detail 23) at each of the three pylon attach hole locations, view D. Tighten until snug against the lower skin. Do not use excessive pressure.

h. If upper skin is removed, insert clamp (detail 22) through frame (detail 11) and pilot hole in skin and attach cap (detail 20) and nut (detail 19). This clamping is for fuel and air holes only; and is not mandatory.

i. Remove drill guide (detail 121) and insert SPT7-RE174110606TD and SPT9-RE174110606TD into subassembly A and install into frame (detail 11) at electrical attach point, view E.

j. Cut a 3.520 diameter hole in lower skin using 74D110312-1001 drilling machine, view E. For drilling machine (A1-F18AC-SRM-200, WP004 17).

k. Remove subassembly A and cutter from frame (detail 11) and insert pin (detail 21) through frame and into hole in skin, view F.

l. Retract jackscrews (detail 23); and remove nut (detail 19), cap (detail 20), and clamp (detail 22) if installed, at fuel attach point, view D.

m. Insert SPT6-RE174110606TD and SPT8-RE174110606TD into subassembly A and install into frame (detail 11) at fuel attach point, view E.

n. Cut a 3.100 diameter hole in lower skin using 74D110312-1001 drilling machine, view E. For drilling machine (A1-F18AC-SRM-200, WP004 17).

o. Remove subassembly A and cutter from frame (detail 11), view E.

p. Tighten four jackscrews (detail 23), at fuel attach point, view D.

q. If upper skin is removed, reinstall clamp (detail 22), cap (detail 20), and nut (detail 19), view D.

r. Retract jackscrews (detail 23); and remove nut (detail 19), cap (detail 20), and clamp (detail 22) if installed, at air attach point, view D.

s. Insert SPT5-RE174110606TD and SPT8-RE174110606TD into subassembly A and install into frame (detail 11) at air attach point, view E.

t. Cut a 2.670 diameter hole in lower skin using 74D110312-1001 drilling machine, view E. For drilling machine (A1-F18AC-SRM-200, WP004 17).

u. Remove subassembly A and cutter from frame (detail 11), view E.

v. Tighten four jackscrews (detail 23), at air attach point, view D.

w. If upper skin is removed, reinstall clamp (detail 22), cap (detail 20), and nut (detail 19), view D.

10. For Outboard Pylon Position.

a. Drill four pylon hook attach holes using 74D110316-1001 drilling machine. For drilling machine (A1-F18AC-SRM-200, WP004 17). For cutters from Aircraft Structural Repair Tool Set, and drill bushings from Drilling Machines Accessory Kit (A1-F18AC-SRM-200, WP004 16).

b. Cold work drilled holes using Cold Work Fastener Hole Tool Set (A1-F18AC-SRM-200, WP004 20).

c. Install subassembly N in one of the drilled holes and secure with lock buttons (detail 130), view A.

d. Insert drill guide (detail 121) into subassembly A and install both into frame (detail 11) at electrical attach point, and secure with lock buttons (detail 139), view B.

e. Drill a 0.500 diameter pilot hole in lower skin using 74D110312-1001 drilling machine and SPT10-74A110606TD, view C. For drilling machine (A1-F18AC-SRM-200, WP004 17).

f. Remove drill guide (detail 121) and insert SPT7-RE74110606TD and SPT9-RE174110606TD into subassembly A and install into frame (detail 11) at electrical attach point, view E.

g. Cut a 3.520 diameter hole in lower skin using 74D110312-1001 drilling machine, view E. For drilling machine (A1-F18AC-SRM-200, WP004 17).

h. Remove subassembly A and cutter from frame (detail 11) and insert pin (detail 21) through frame and into hole in skin, view F.

11. BORING STRUCTURE/ SPLICE FITTING, INSTALLATION AND BORING OF INBOARD PYLON POST BUSHINGS. See figure 5. These procedures are for boring when replacing 74A110606 spar and 74A110601 skin, 74A110606 spar only, or 74A110601 skin only.

Support Equipment Required

Part Number or Type Designation	Nomenclature
74D110314-1005	Drilling Machine, Positive Feed, 110 RPM
RCH-123	Hydraulic Cylinder
-	Torque Wrench, 0 to 120 Inch-Pounds

Materials Required

BB-N-411, Type II, Class 1, Grade A or B	Nitrogen, Liquid
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12. Spar and Skin Replacement. When both spar and lower skin are being replaced, bore skin and structure per steps below:

a. Install tool set on wing in inner wing maintenance fixture per Installation of Pylon Bushing Tool Set for Wing in Maintenance Fixture, this WP; or install tool set on wing per Installation of Pylon Bushing Tool Set on Wing, this WP, as applicable, except install pylon bushing pin (detail 47).

b. Secure tool set in position using C-clamps at both forward and aft ends. Provide protection between clamps and wing.

NOTE

Pylon bushing pin (detail 47) must be free to rotate and be removed.

c. On a work surface, assemble 74D110314-1005 drilling machine, SPT16-RE174110606TD adapter bushing, RE174110606 boring bar adaptor (detail 242), and RE174110606TD boring bar (detail 101), view A. For drilling machine (A1-F18AC-SRM-200, WP004 17).

d. Attach air feed line to drilling machine.

e. With drilling machine firmly attached to work surface, turn drilling machine on.



Be careful not to come into contact with rotating equipment while adjusting clearance, injury or damage to equipment may occur.

NOTE

Listen for a change in pitch of drilling machine, while operating under a no-load condition, which indicates zero clearance has been reached.

f. Carefully adjust socket set screws (detail 6 of SPT16) against bearing (detail 2 of SPT16), four places, to get 0.000 clearance between boring bar and bearing, view A.

NOTE

Clearance shall be inspected often, and shall be inspected before any finish cut.

g. Turn drilling machine off.

h. Measure finish diameters of cutter block assemblies to make sure they have been inspected and

sealed, view A. See table, this figure, for applicable cutter block information.

i. Slide cutter block assemblies onto boring bar (detail 101 of SPT-) arbor and attach with lock screws (details 12 and 13 of SPT-), view A.

j. Torque lock screws to 75 inch-pounds, view A.

k. Slide adapter bushing, boring bar, and drilling machine into the tool set, and secure into bushing guide (detail 113) by engaging lock buttons (detail 139), view B.

l. Bore a 3.125 diameter hole in-line with a 4.375 diameter hole in spar and skin, view B. See table, this figure, for applicable cutter details.

m. Remove drilling machine from tool set, and remove cutter block assemblies from SPT- arbor.

n. On a work surface, assemble 74D110314-1005 drilling machine, SPT16-RE174110606TD adapter bushing, RE174110606 boring bar adaptor (detail 242), SPT3-RE174110606TD cutter block (detail 18) and boring bar (detail 101), view C. For drilling machine (A1-F18AC-SRM-200, WP004 17).

o. Slide adapter bushing, boring bar, and cutter block into the tool set, with cutting block and boring bar extending fully into the wing, view C.

p. Secure bushing adapter in bushing guide (detail 113) using lock buttons (detail 139), view C.

q. Retract boring bar (detail 101 of SPT-3) into position to back spot-face spar.

r. Cut a back spot-face 4.600 inches in diameter, to get a spar flange thickness of 0.172, view C. See table, this figure, for applicable cutter information. Inspect spot-face for correct thickness and diameter.

s. Install and bore pylon post bushings per Installation and Boring of Inboard Pylon Post Bushings, this WP.

13. Skin Replacement Only. When skin is replaced, bore hole in skin per steps below:

a. Install tool set on wing in inner wing maintenance fixture per Installation of Pylon Bushing Tool Set for Wing in Maintenance Fixture, this WP; or

install tool set on wing per Installation of Pylon Bushing Tool Set on Wing, this WP, as applicable. Install pylon bushing pin (detail 41) into bushing guide (detail 113) and into structure.

b. Secure tool set in position using C-clamps at both forward and aft ends. Provide protection between clamps and wing.

NOTE

Pylon bushing pin must be free to rotate and be removed.

c. On a work surface, assemble 74D110314-1005 drilling machine, SPT16-RE174110606TD adapter bushing, RE174110606 boring bar adaptor (detail 242), and SPT3-74110606TD boring bar (detail 101), view A. For drilling machines (A1-F18AC-SRM-200, WP004 17).

d. Attach air feed line to drilling machine.

e. With drilling machine firmly attached to the work surface, turn drilling machine on.



Be careful not to come into contact with rotating equipment while adjusting clearance, injury or damage to equipment may occur.

NOTE

Listen for a change in pitch of drilling machine, while operating under a no-load condition, which indicates zero clearance has been reached.

f. Carefully adjust socket set screws (detail 6 of SPT16) against bearing (detail 2 of SPT16), four places to get 0.000 clearance between boring bar and bearing, view A.

NOTE

Clearance shall be inspected often, and shall be inspected before any finish cut.

g. Turn drilling machine off.

h. Measure finish diameters of cutter block assemblies to make sure they have been inspected and sealed. See table, this figure, for applicable cutter block information.

i. Slide cutter block assemblies onto boring bar (detail 101 of SPT-3) arbor and attach with lock screws (details 12 and 13 of SPT-3), view A.

j. Torque lock screws to 75 inch-pounds, view D.

k. Slide adapter bushing, boring bar, and drilling machine into the tool set, and secure into bushing guide (detail 113) by engaging lock buttons (detail 139), view A.

l. Bore a 3.155 diameter (first oversize), or a 3.185 diameter (second oversize) hole in-line with a 4.375 diameter hole in spar and skin, view B. See table, this figure, for applicable cutter details.

m. Remove drilling machine from tool set.

n. Inspect bored holes for correct diameters.

o. Install and bore pylon post bushings per Installation and Boring of Inboard Pylon Post Bushings, this WP.

14. Spar Replacement Only. When spar is replaced, bore hole in spar per steps below:

a. Install tool set on wing in inner wing maintenance fixture per Installation of Pylon Bushing Tool Set for Wing in Maintenance Fixture, this WP; or install tool set on wing per Installation of Pylon Bushing Tool Set on Wing, this WP, as applicable. Install pylon bushing pin (detail 40, 54, or 55) into bushing guide (detail 113) and into structure, view F.

b. Secure tool set in position using C-clamps at both forward and aft ends. Provide protection between clamps and wing.

NOTE

Pylon bushing pin must be free to rotate and be removed.

c. On a work surface, assemble 74D110314-1005 drilling machine, SPT16-RE174110606TD adapter bushing, RE174110606 boring bar adapter (detail 242), and SPT3-RE174110606TD boring bar (detail 101), view A. For drilling machine (A1-F18AC-SRM-200, WP004 17).

d. Attach air feed line to drilling machine.

e. With drilling machine firmly attached to the work surface, turn drilling machine on.



Be careful not to come into contact with rotating equipment while adjusting clearance, injury or damage to equipment may occur.

NOTE

Listen for a change in pitch of drilling machine, while operating under a no-load condition, which indicates zero clearance has been reached.

f. Carefully adjust socket set screws (detail 6 of SPT16) against bearing (detail 2 of SPT16), four places, to get 0.000 clearance between boring bar and bearing, view A.

NOTE

Clearance shall be inspected often, and shall be inspected before any finish cut.

g. Turn drilling machine off.

h. Measure finish diameters of cutter block assemblies to make sure they have been inspected and sealed. See table, this figure, for applicable cutter block information.

i. Slide cutter block assemblies onto boring bar (detail 101 of SPT3) arbor and attach with lock screws (details 12 and 13 of SPT3), view A.

j. Torque lock screws to 75 inch-pounds, view A.

k. Slide adapter bushing, boring bar, and drilling machine into the tool set, and secure into bushing guide (detail 113) by engaging lock buttons (detail 139), view B.

l. Bore a 3.125 diameter hole in-line with a 4.405 diameter (first oversize), or a 4.435 diameter (second oversize) hole in spar and skin, view B. See table, this figure, for applicable cutter details.

m. Remove drilling machine from tool set, and remove cutter block assemblies from SPT-3 arbor.

n. On a work surface, assemble 74D110314-1005 drilling machine, SPT16-RE17411006TD adapter bush-

ing, RE174110606 boring bar adapter (detail 242), SPT3-RE174110606TD cutter block (detail 18) and boring bar (detail 101), view C. For drilling machine, (A1-F18AC-SRM-200, WP004 17).

o. Slide adapter bushing, boring bar, and cutter block into the tool set, with cutting block and boring bar extending fully into the wing, view C.

p. Secure bushing adapter in bushing guide (detail 113) using lock buttons (detail 139), view C.

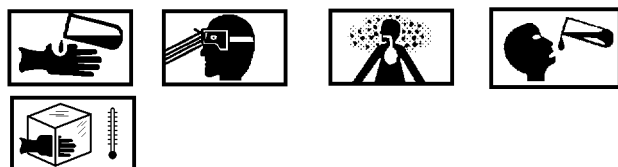
q. Retract boring bar (detail 101 of SPT-3) into position to back spot-face spar.

r. Cut a back spot-face 4.600 inches in diameter, to get a spar flange thickness of 0.172, view C. See table this figure, for applicable cutter information. Inspect spot-face for correct thickness and diameter.

s. Install and bore pylon post bushings per Installation and Boring of Inboard Pylon Post Bushings, this WP.

15. Installation and Boring of Inboard Pylon Post Bushings. Refer to Upper Bushing Installation, this WP, for installation of upper bushing. Refer to Lower Bushing Installation, this WP, for installation lower bushing. Refer to Boring Inside Diameter of Upper and Lower Bushings, this WP, for boring upper and lower bushings.

16. Upper Bushing Installation. All detail numbers in this paragraph are part of SPT14-RE110606TD. Bushing is cold shrink installed.



Liquid Nitrogen

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a. Install bushing guide (detail 4) into tool set, view D. Align arrows on bushing guide (detail 4) with arrows of tool set as required.

b. Cold shrink bushing.

c. Place bushing on SPT14 assembly for installation into wing structure.

d. Align block (detail 3) with slot in bushing guide (detail 4) and slide SPT14 through to wing, view D.

e. Install bushing into wing structure. Release bushing and remove SPT14 assembly.

f. Bore inside diameter of bushing per Boring Inside Diameter of Upper and Lower Bushings

17. Lower Bushing Installation. All detail numbers in this paragraph are part of SPT13-RE174110606TD.

a. Load applicable replacement bushing onto collet (detail 18). Tighten set screws (detail 19), 4 places to secure bushing to collet (detail 18), view E.

b. Carefully insert bushing and collet (detail 18) into structure by turning 90° and slipping bushing flats through bushing hole, view E. Locate bushing in 4.375 inch diameter bore.

c. Insert rod (detail 8) through structure and collet (detail 18) and rotate 90° to lock in place.

d. Slide backup (detail 15) onto rod (detail 8) and into 4.375 bore in structure, and contacting replacement bushing.

e. Install knurled nut (detail 17) onto rod (detail 8) to secure backup (detail 15) against bushing.

f. Slide cover (detail 6) over rod (detail 8) and onto backup (detail 15).

g. Attach hydraulic cylinder by sliding over rod (detail 8) and secure with knurled nut (detail 7), view E.

h. Attach hydraulic hoses to hydraulic cylinder, air feed line to pump, and attach safety cap, view E.

i. Activate pump, and pull bushing into structure.

j. Remove safety cap, knurled nuts (details 7 and 17) cover (detail 6), rod (detail 8) and collet (detail 18), view E.

k. Bore inside diameter of bushing per Boring Inside Diameter of Upper and Lower Bushings.

18. Boring Inside Diameter of Upper and Lower Bushings.

a. On a work surface, assemble 74D110314-1005 drilling machine, SPT16-74A110606TD adapter bushing, RE174110606 boring bar adapter (detail 242), and SPT3-RE174110606 boring bar (detail 101), view A. For drilling machines (A1-F18AC-SRM-200, WP004 17).

b. Attach air feed line to drilling machine.

c. With drilling machine firmly attached to the work surface, turn drilling machine on.



Be careful not to come into contact with rotating equipment while adjusting clearance, injury or damage to equipment may occur.

NOTE

Listen for a change in pitch of drilling machine, while operating under a no-load condition, which indicates zero clearance has been reached.

d. Carefully adjust socket set screw (detail 6 of SPT16) against bearing (detail 2 of SPT16), four places to get 0.000 clearance between boring bar and bearing, view A.

NOTE

Clearance shall be inspected often, and shall be inspected before any finish cut.

e. Turn drilling machine off.

f. Measure finish diameters of cutter block assemblies to make sure they have been inspected and sealed. See table, this figure, for applicable cutter block information.

g. Slide cutter block assemblies onto boring bar (detail 101 of SPT3) arbor and attach with lock screws (detail 3 and 4 of SPT3), view A.

h. Torque lock screws to 75 inch-pounds, view A.

i. With bushing guide (detail 113) installed, insert drilling machine into the tool set and secure by engaging lock buttons (detail 139), view B.

j. Bore a 2.500 diameter hole in-line with a 4.000 diameter hole in bushings, view B. See table, this figure, for applicable cutter details.

k. Remove drilling machines from tool set.

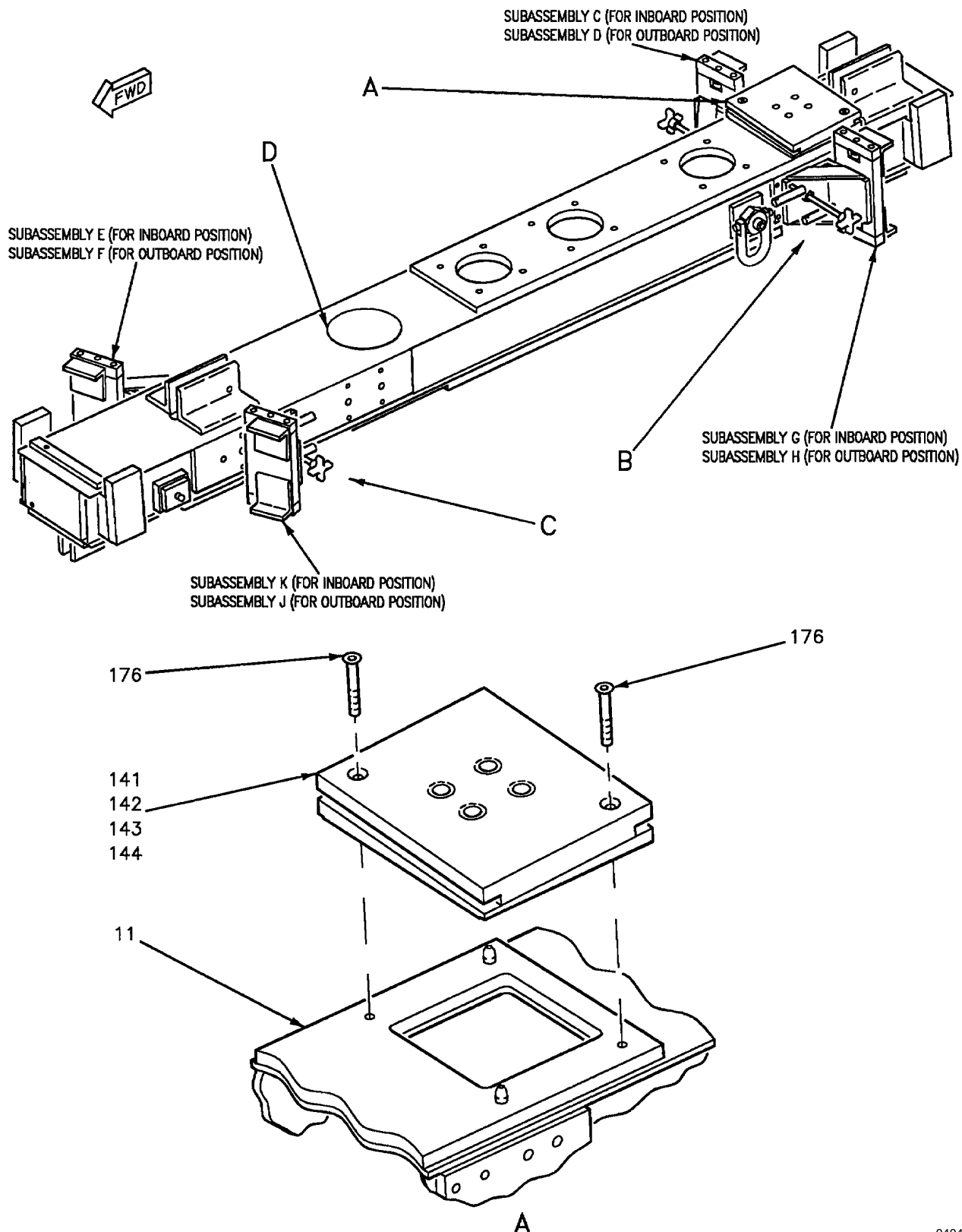


Figure 2. Installation of Pylon Bushing Tool Set for Wing in Maintenance Fixture (Sheet 1)

04040201

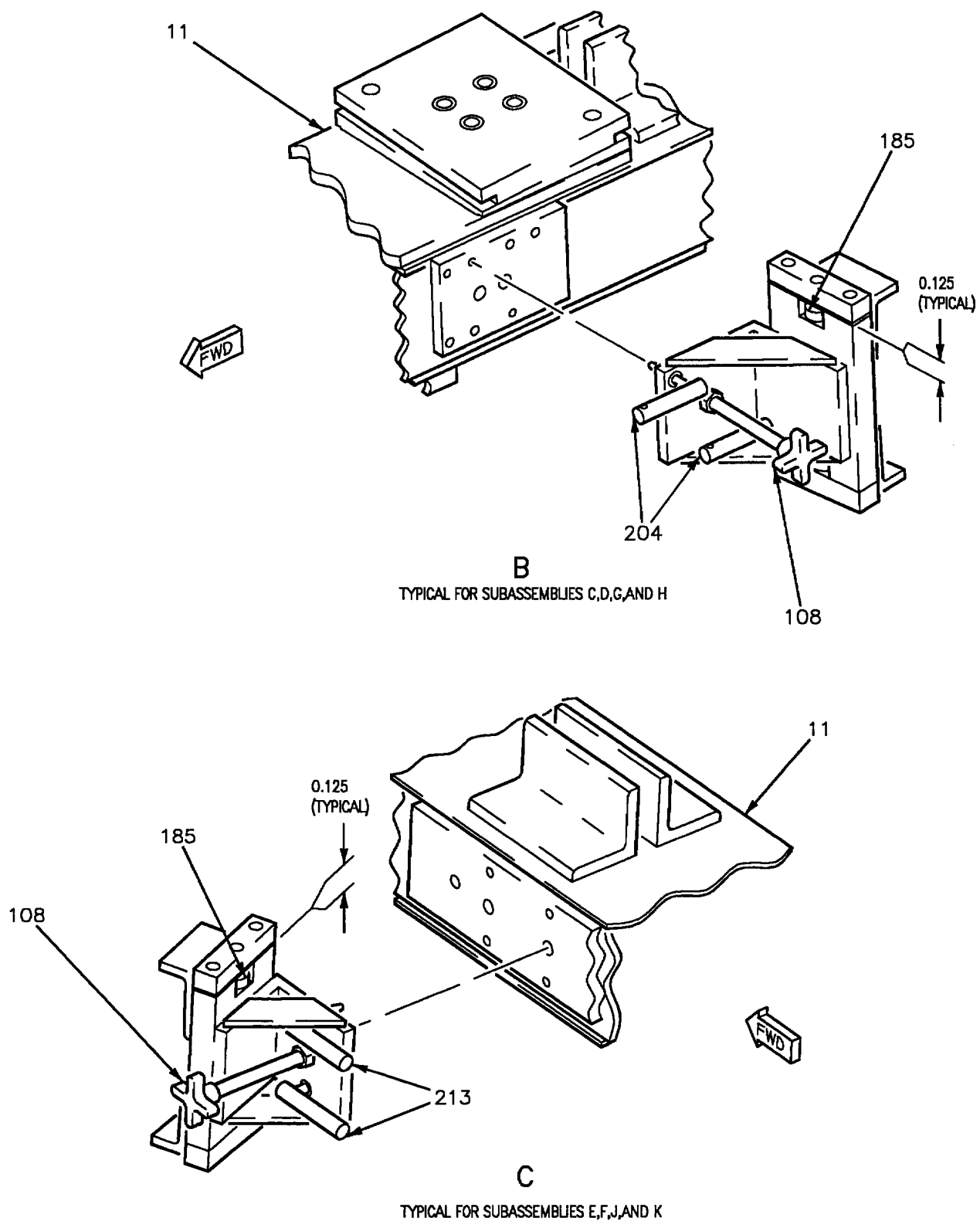


Figure 2. Installation of Pylon Bushing Tool Set for Wing in Maintenance Fixture (Sheet 2)

04040202

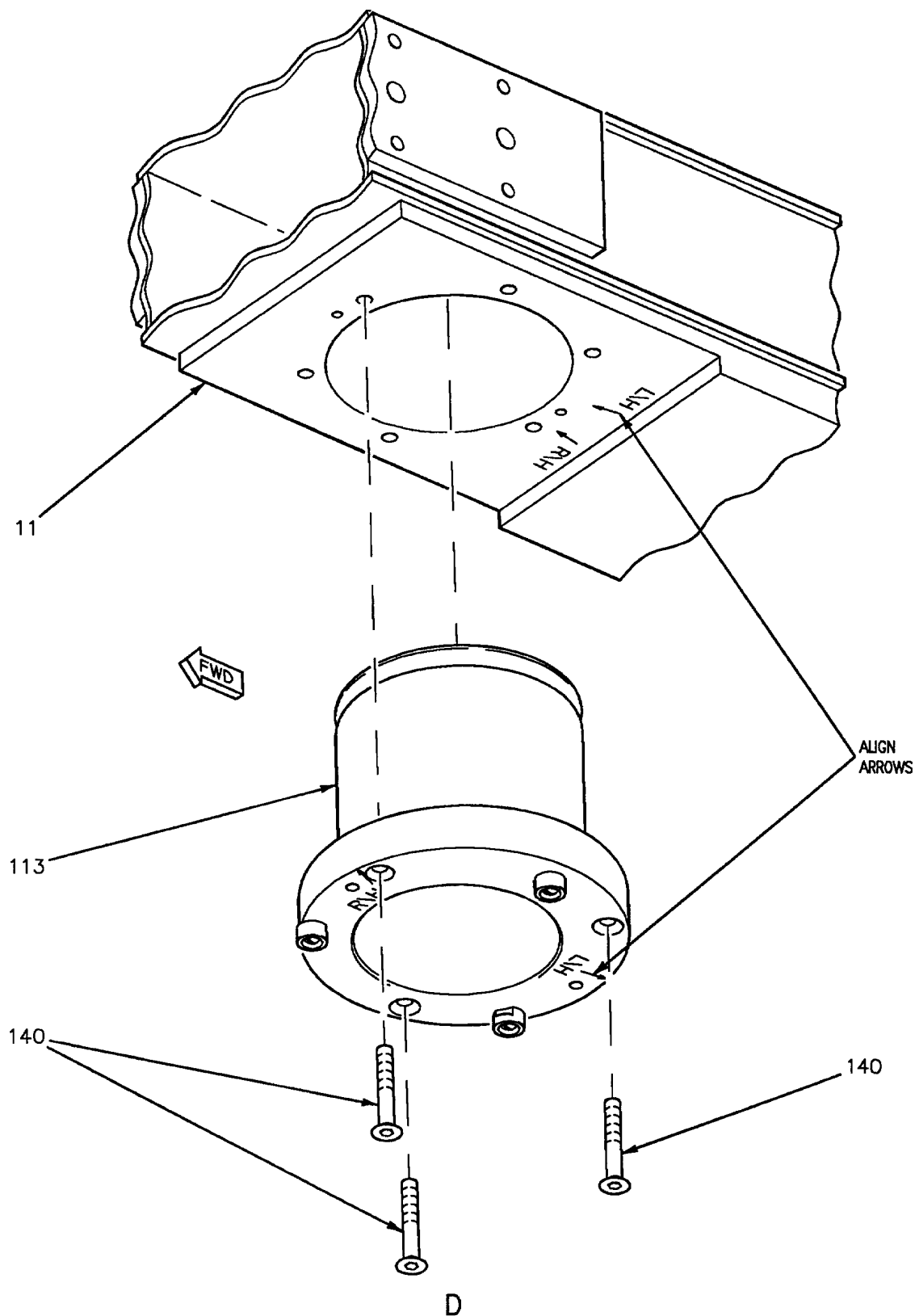
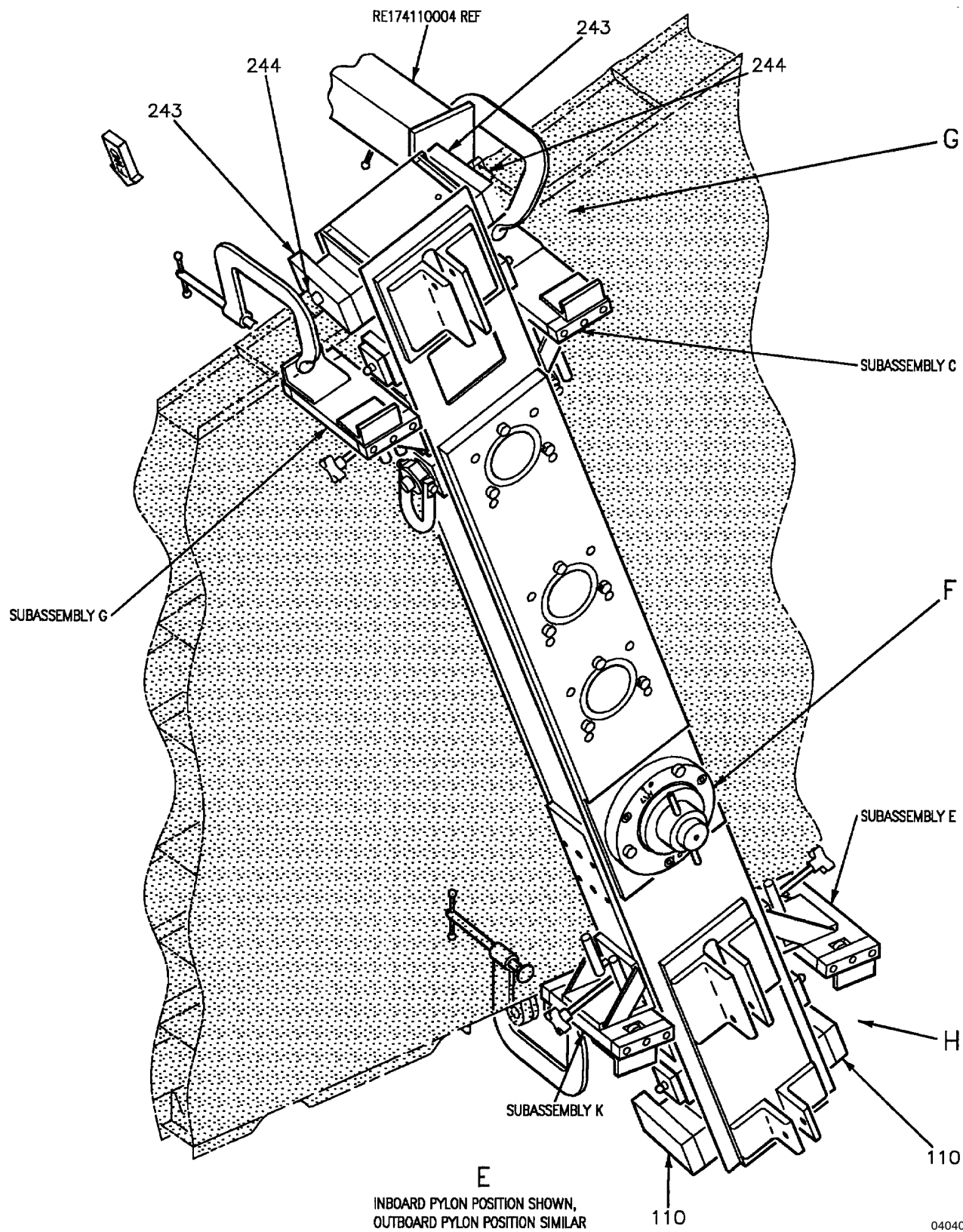
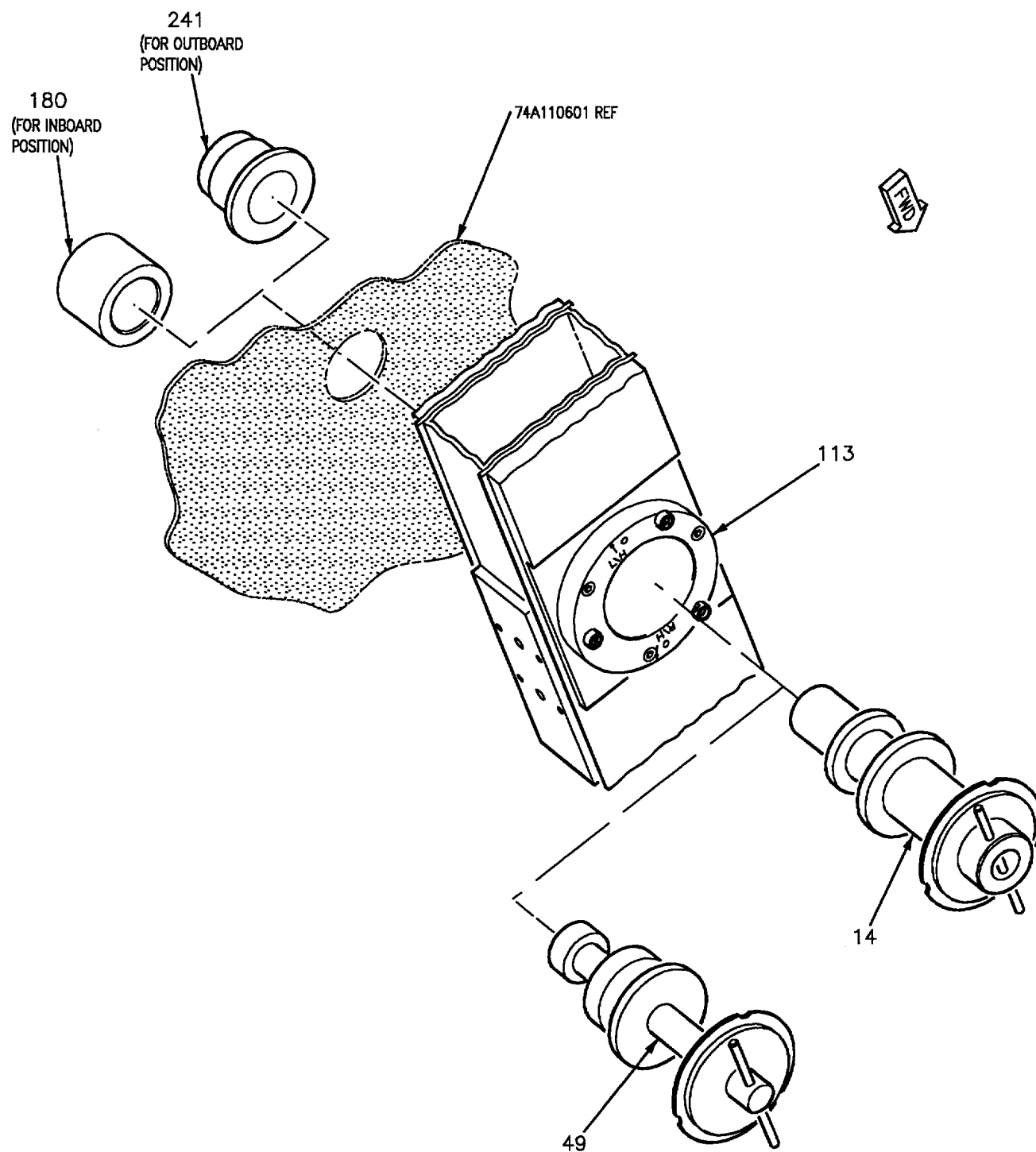


Figure 2. Installation of Pylon Bushing Tool Set for Wing in Maintenance Fixture
(Sheet 3)

04040203



**Figure 2. Installation of Pylon Bushing Tool Set for Wing in Maintenance Fixture
(Sheet 4)**



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04040205

**Figure 2. Installation of Pylon Bushing Tool Set for Wing in Maintenance Fixture
(Sheet 5)**

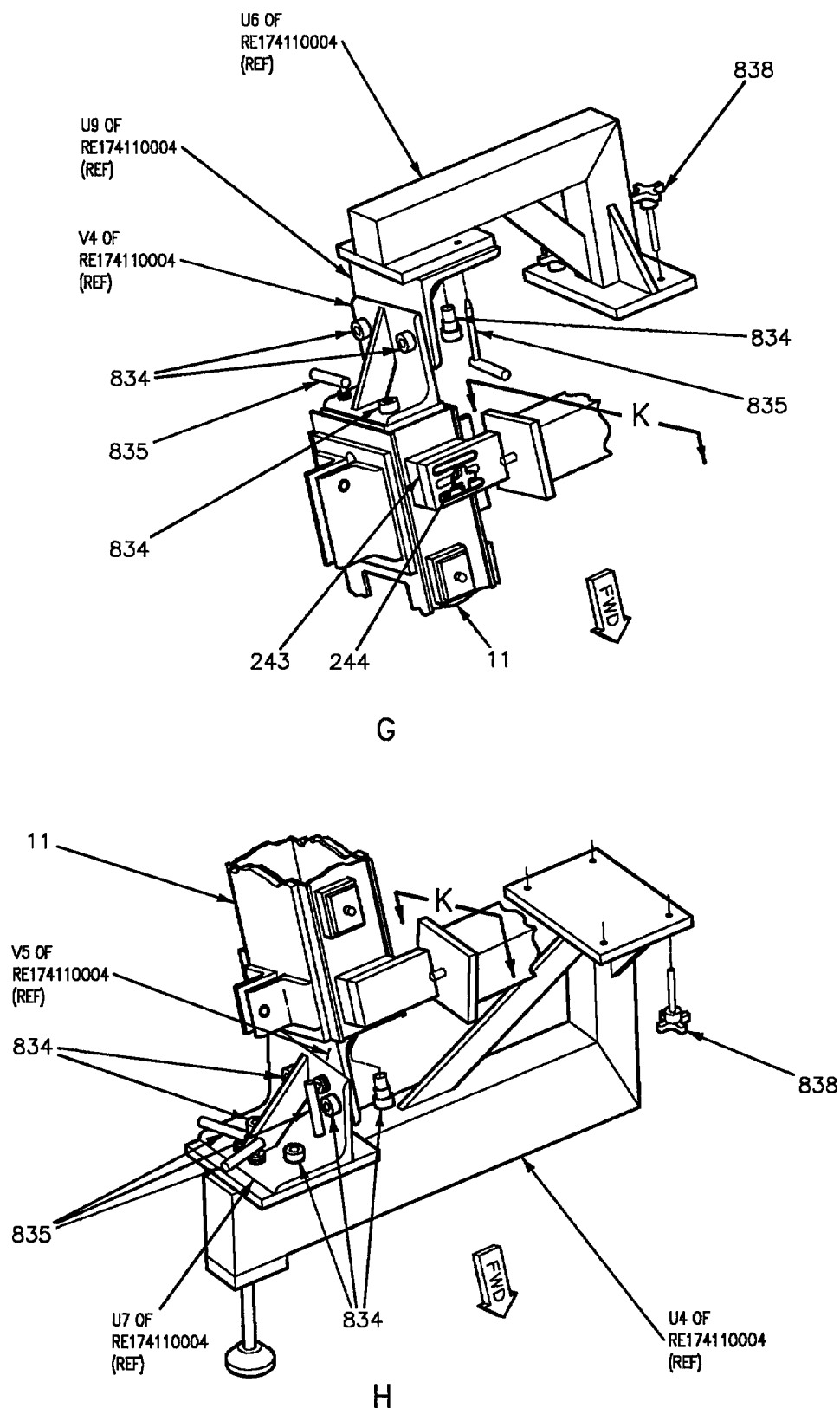
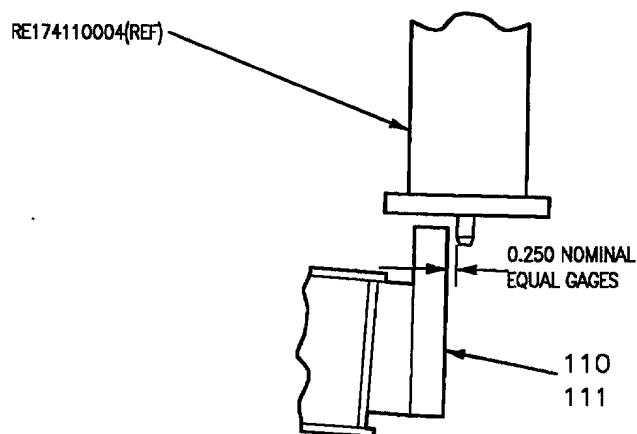
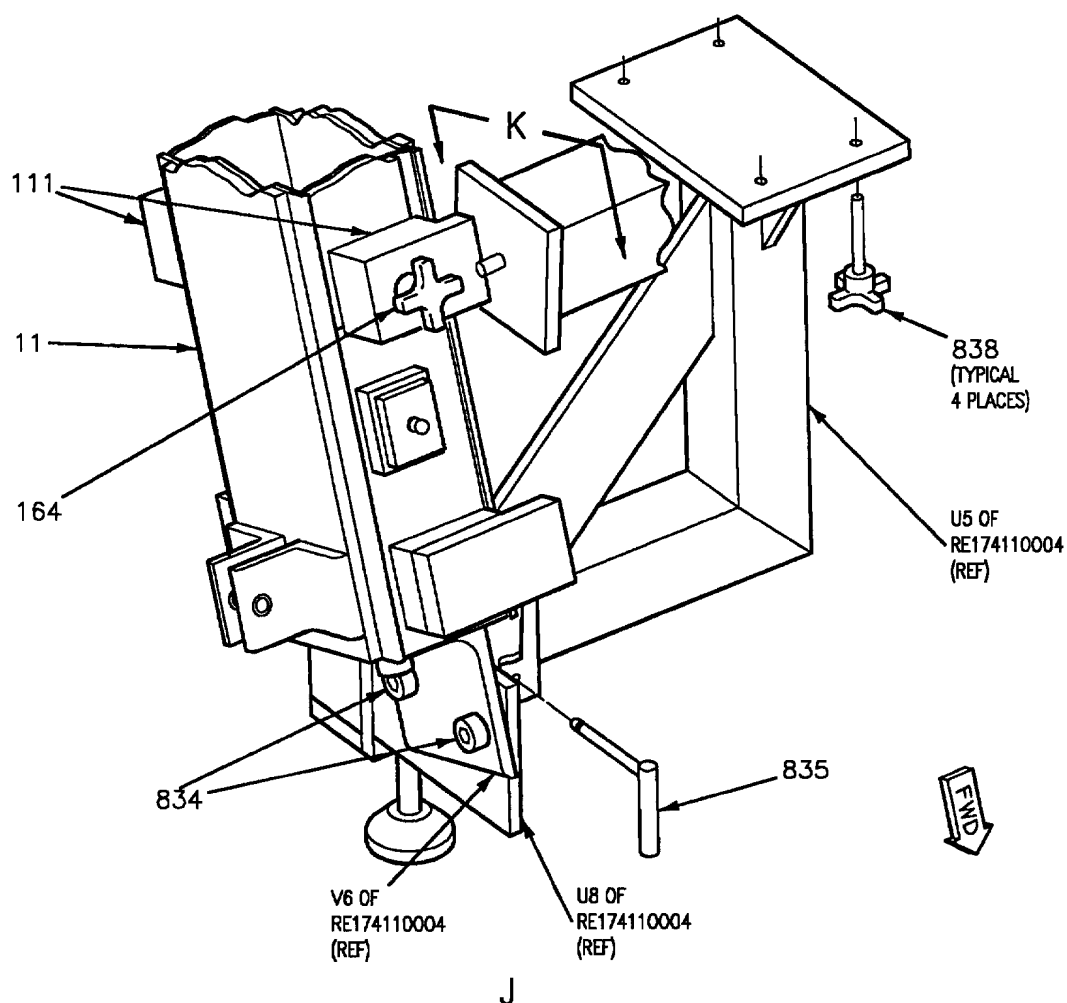


Figure 2. Installation of Pylon Bushing Tool Set for Wing in Maintenance Fixture
(Sheet 6)



K
TYPICAL TWO PLACES

Figure 2. Installation of Pylon Bushing Tool Set for Wing in Maintenance Fixture
(Sheet 7)

04040207











Detail No.	Name	Function
Subassembly C	Locator	Locates tool at aft spar for inboard pylon position.
Subassembly D	Locator	Locates tool at aft spar for outboard pylon position.
Subassembly E	Locator	Locates tool at forward spar for inboard pylon position.
Subassembly F	Locator	Locates tool at forward spar for outboard pylon position.
Subassembly G	Locator	Locates tool at aft spar for inboard pylon position.
Subassembly H	Locator	Locates tool at aft spar for outboard pylon position.
Subassembly J	Locator	Locates tool at forward spar for outboard pylon position.
Subassembly K	Locator	Locates tool at forward spar for inboard pylon position.
U4 	Support Assembly	Supports tool set at forward inboard location of maintenance fixture.
U5 	Support Assembly	Supports tool set at forward outboard location of maintenance fixture.
U6 	Support Assembly	Supports tool set at aft inboard and outboard location on maintenance fixture.
U7 	Locator	Locates forward end of tool set to inboard position on maintenance fixture.
U8 	Locator	Locates forward end of tool set to outboard position on maintenance fixture.
U9 	Locator	Locates aft end of tool set to inboard and outboard position on maintenance fixture.
11	Frame	Main locator and support for all details and subassemblies.
14	Pylon Bushing Pin	Locates tool at inboard pylon attach point for nominal bushing.
46	Pylon Bushing Pin	Locates tool at outboard attach point in bushing insert (detail 241).
47	Pylon Bushing Pin	Locates tool at inboard attach point in bushing insert (detail 180).
49	Pylon Bushing Pin	Locates tool at outboard pylon attach point for nominal bushing.
56	Support	Attaches to, and supports forward end of tool set in maintenance fixture.

Figure 2. Installation of Pylon Bushing Tool Set for Wing in Maintenance Fixture (Sheet 8)

Detail No.	Name	Function
58	Support	Attaches to, and supports aft end of tool set in maintenance fixture.
108	Hand Knob	Secures subassemblies C, D, E, F, G, H, J, and K to frame.
110, 111	Locator	Locate tool to maintenance fixture.
113	Bushing Guide	Locates pylon bushing pin for alignment of tool at pylon attach point.
140	Flat Head Socket Cap Screw	Attaches bushing guide to frame.
141	Drill Plate	Guides drill for aft spar holes at left side inboard pylon position.
142	Drill Plate	Guides drill for aft spar holes at left side outboard pylon position.
143	Drill Plate	Guides drill for aft spar holes at right side inboard pylon position.
144	Drill Plate	Guides drill for aft spar holes at right side outboard pylon position.
146	Shim	Locates details 141, 142, 143, and 144.
164	Hand Knob	Secures detail 111 to tool set.
176	Flat Head Socket Cap Screw	Attaches drill plates and shim to frame.
180	Bushing Insert	Installs into inboard pylon bushing and locates pylon bushing (detail 47).
185	Adjustment Nut	Adjusts subassemblies C, D, E, F, G, H, J, and K for installation of tool set on wing.
204	L-Pin	Locates and attaches subassemblies C and G to frame.
213	L-Pin	Locates and attaches subassemblies D, E, F, H, J, and K to frame.
241	Bushing Insert	Installs into outboard pylon bushing and locates pylon bushing pin (detail 46).
243	Locator	Slides into place to locate tool to maintenance fixture.
244	Hand Knob	Secures detail 243 to tool set.

**Figure 2. Installation of Pylon Bushing Tool Set for Wing in Maintenance Fixture
(Sheet 9)**

Detail No.	Name	Function
834 	Socket Head Cap Screws	Secures various details to attach tool set to maintenance fixture.
835 	L-Pins	Locates and attaches details to tool set and maintenance fixture.
838 	Hand Knob	Secures various details to maintenance fixture.
LEGEND		
 Part of RE174110004 Maintenance Fixture.		

**Figure 2. Installation of Pylon Bushing Tool Set for Wing in Maintenance Fixture
(Sheet 10)**

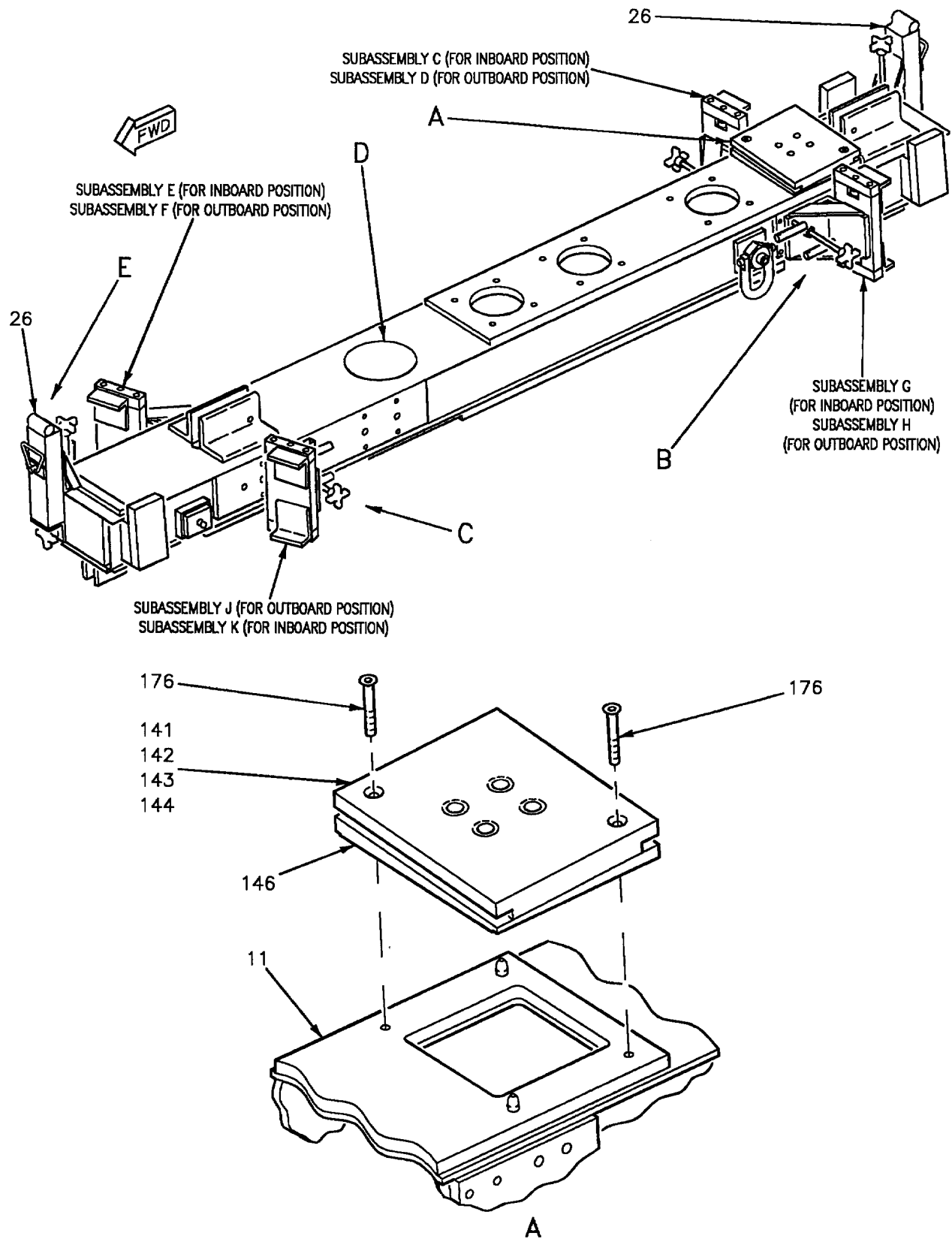


Figure 3. Installation of Pylon Bushing Tool Set on Wing (Sheet 1)

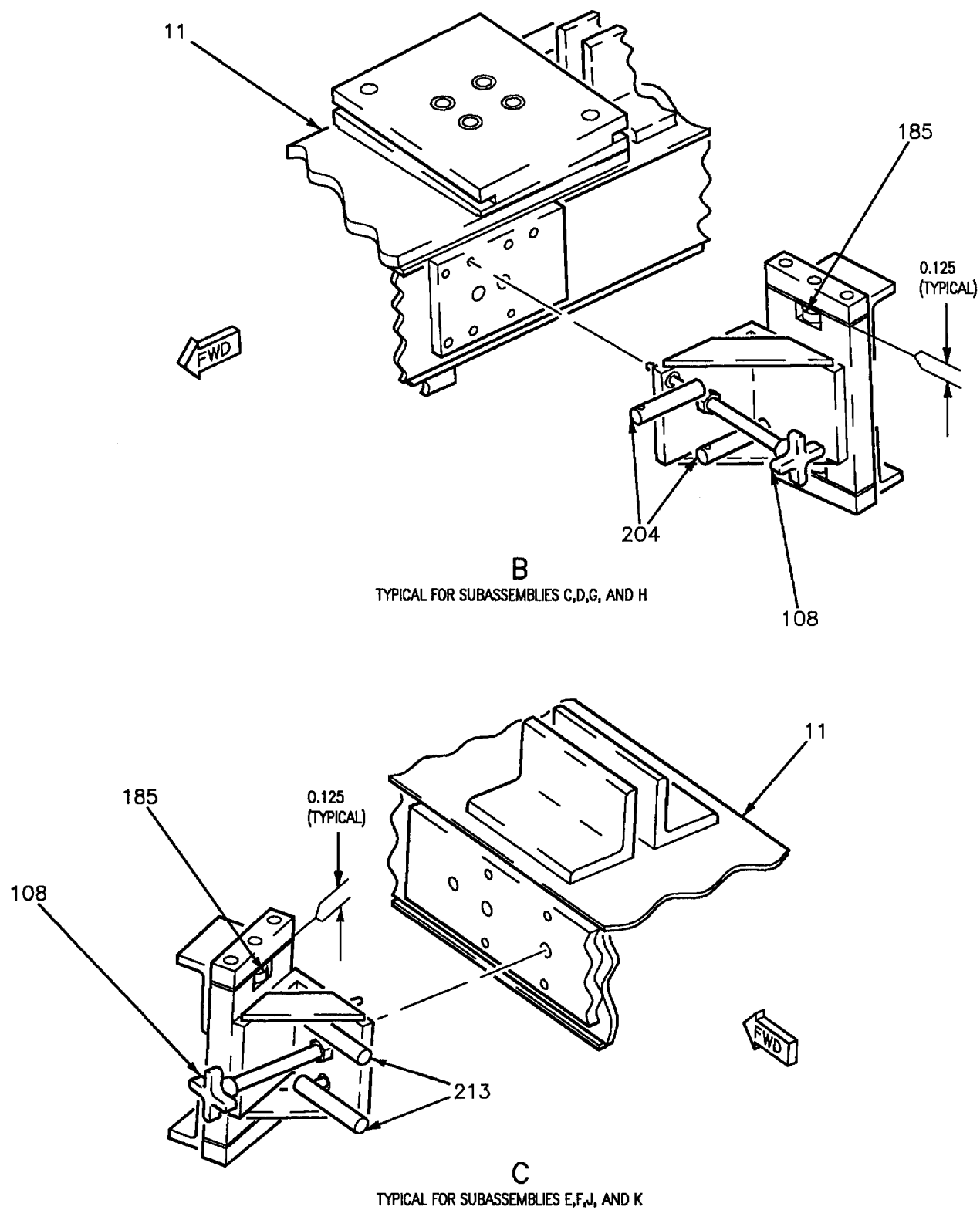


Figure 3. Installation of Pylon Bushing Tool Set on Wing (Sheet 2)

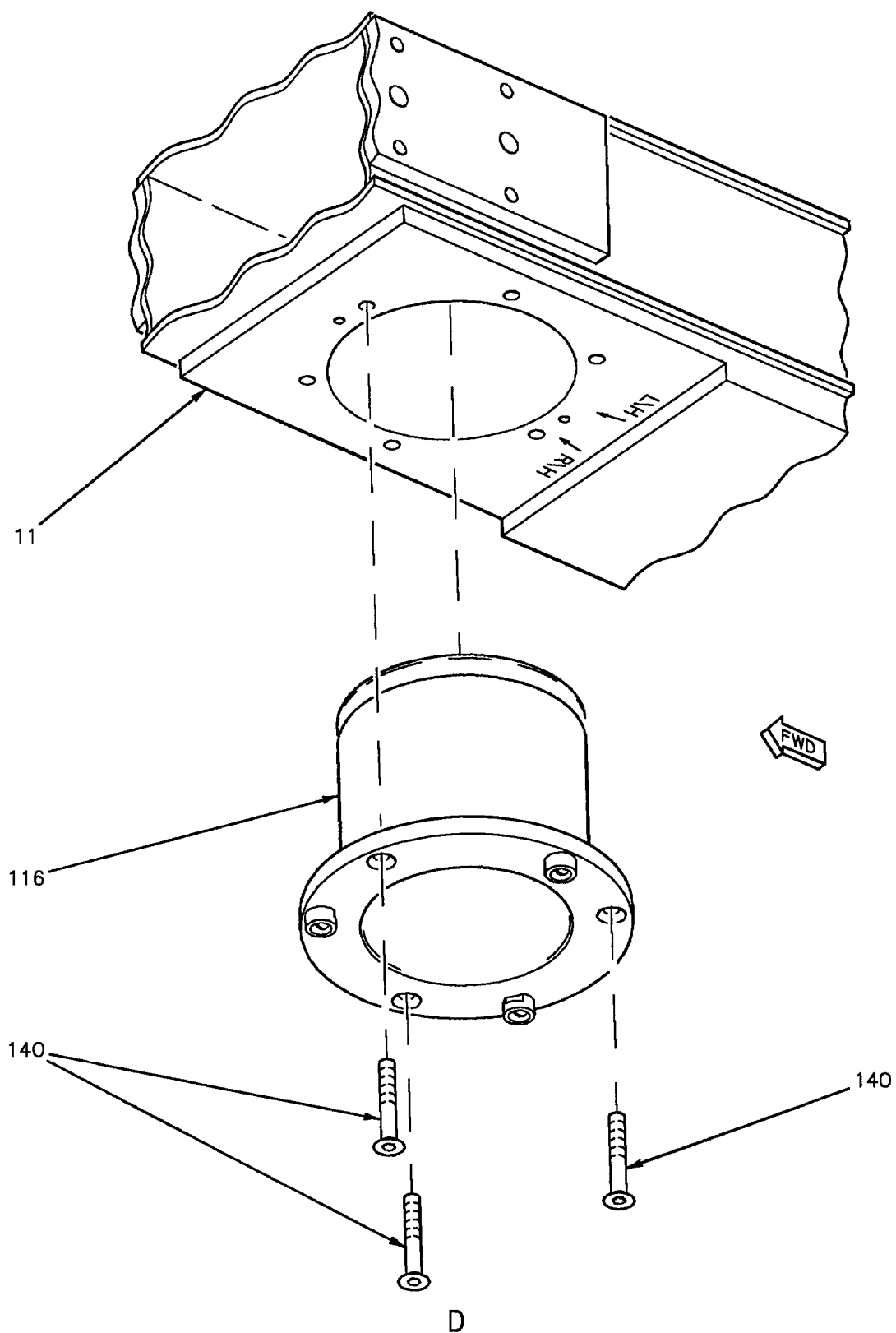


Figure 3. Installation of Pylon Bushing Tool Set on Wing (Sheet 3)

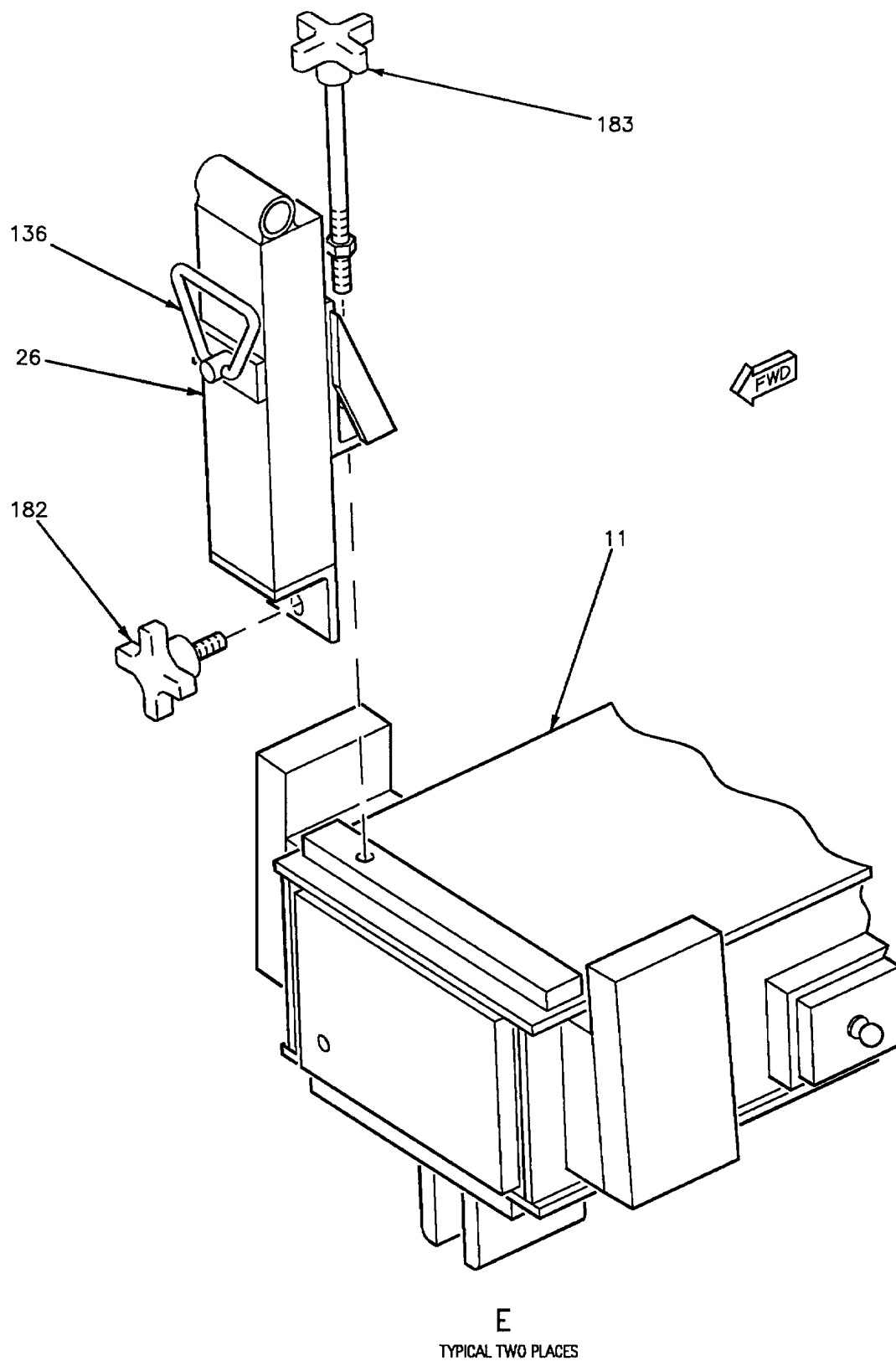


Figure 3. Installation of Pylon Bushing Tool Set on Wing (Sheet 4)

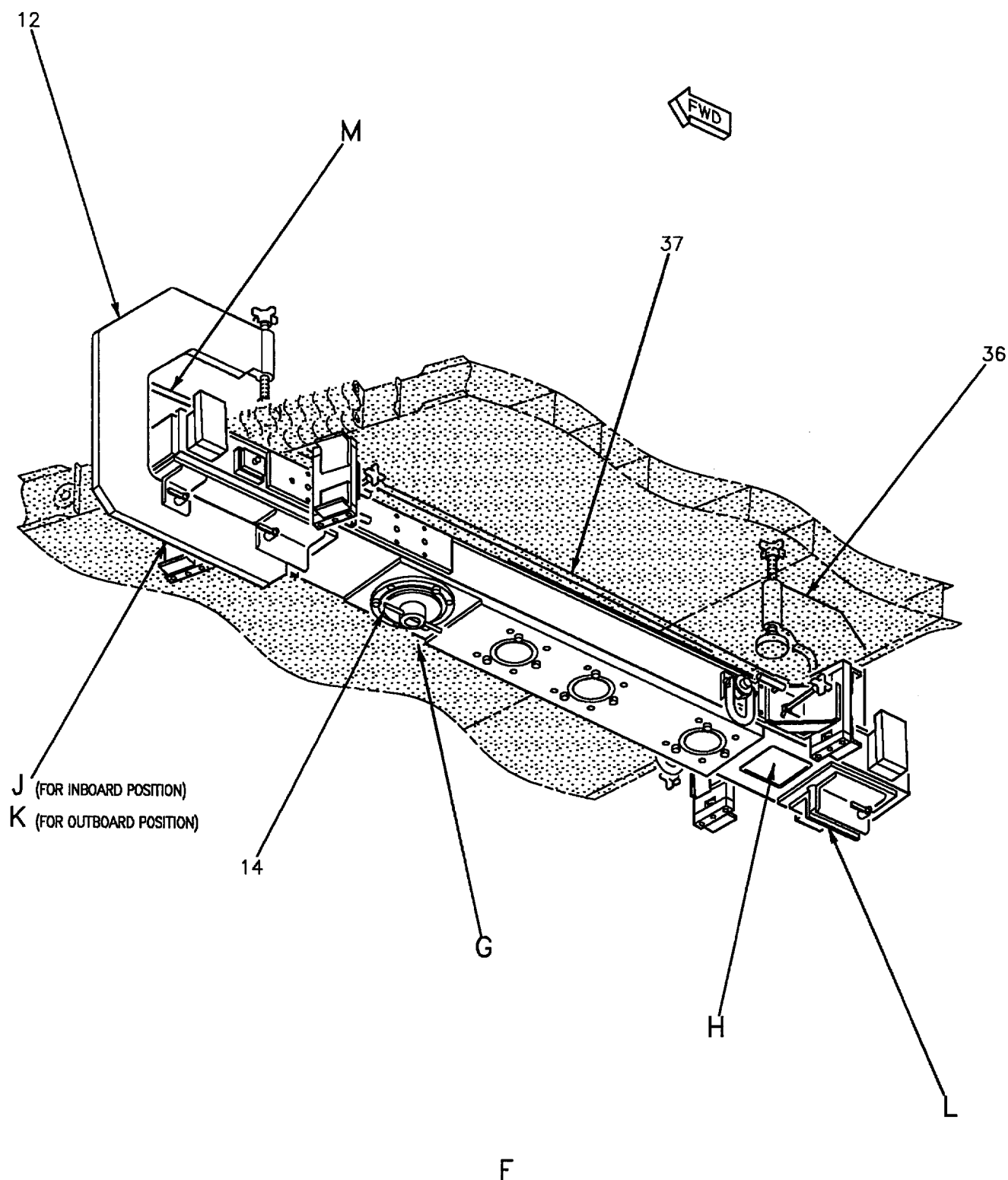


Figure 3. Installation of Pylon Bushing Tool Set on Wing (Sheet 5)

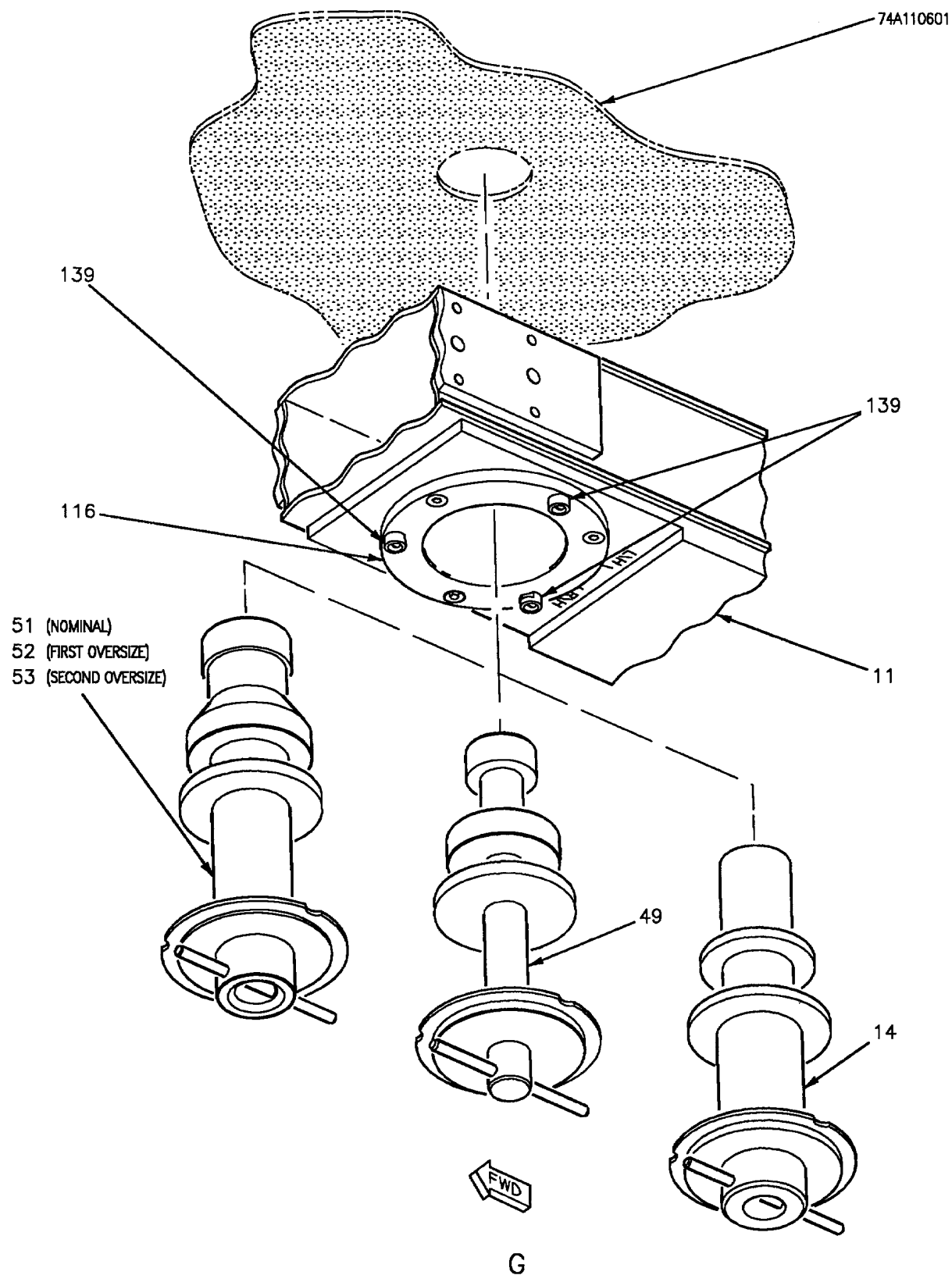


Figure 3. Installation of Pylon Bushing Tool Set on Wing (Sheet 6)

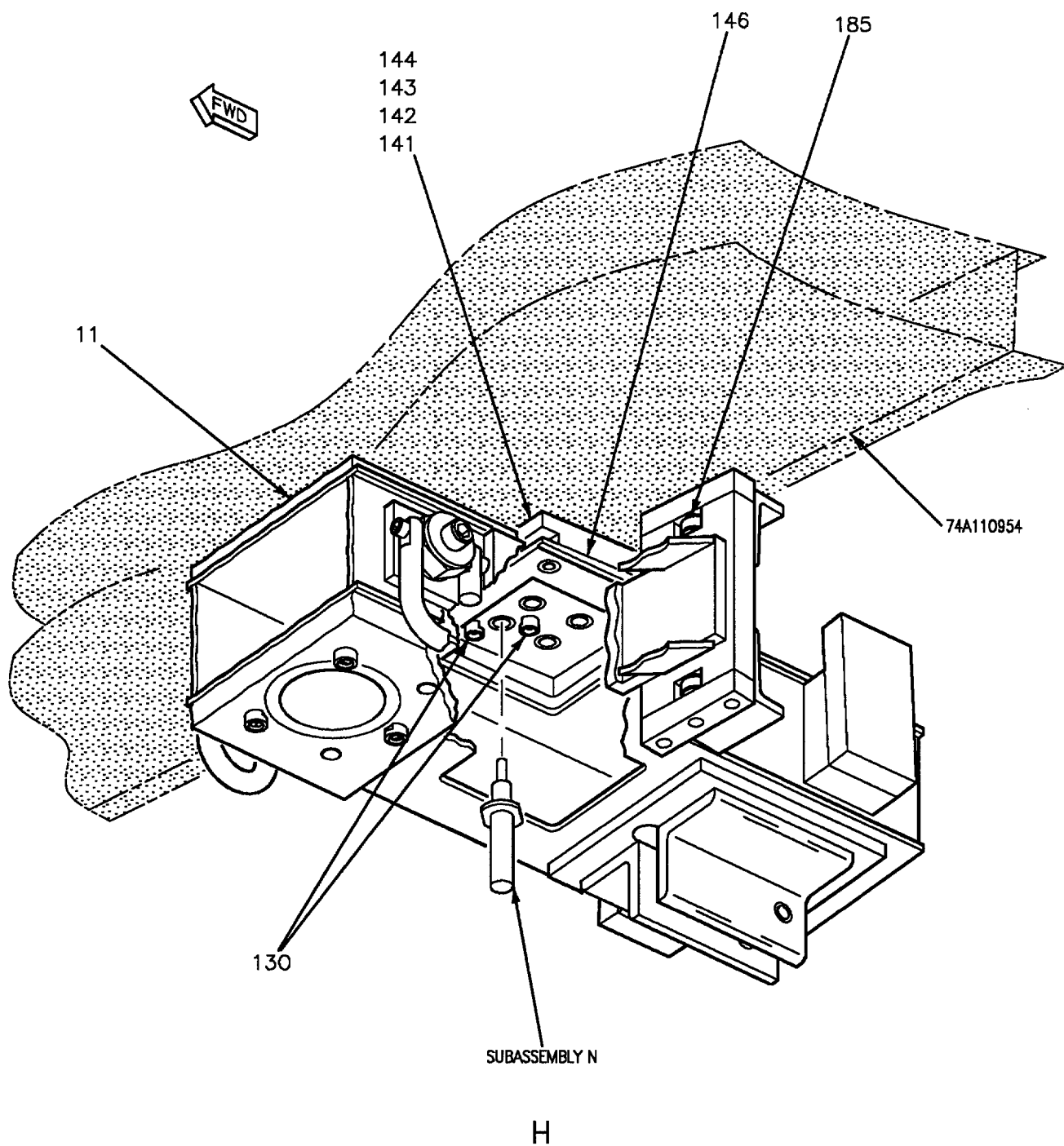


Figure 3. Installation of Pylon Bushing Tool Set on Wing (Sheet 7)

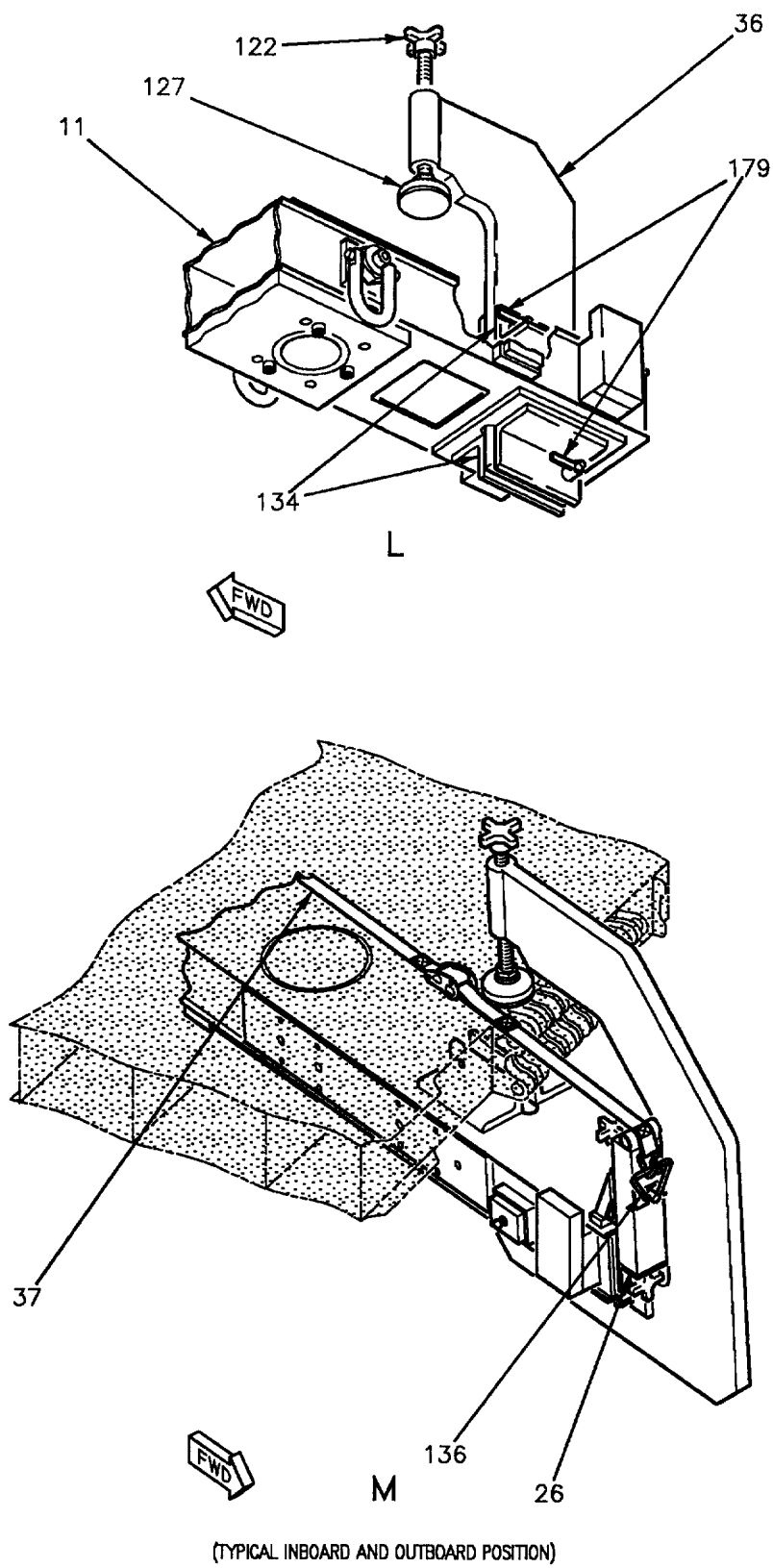


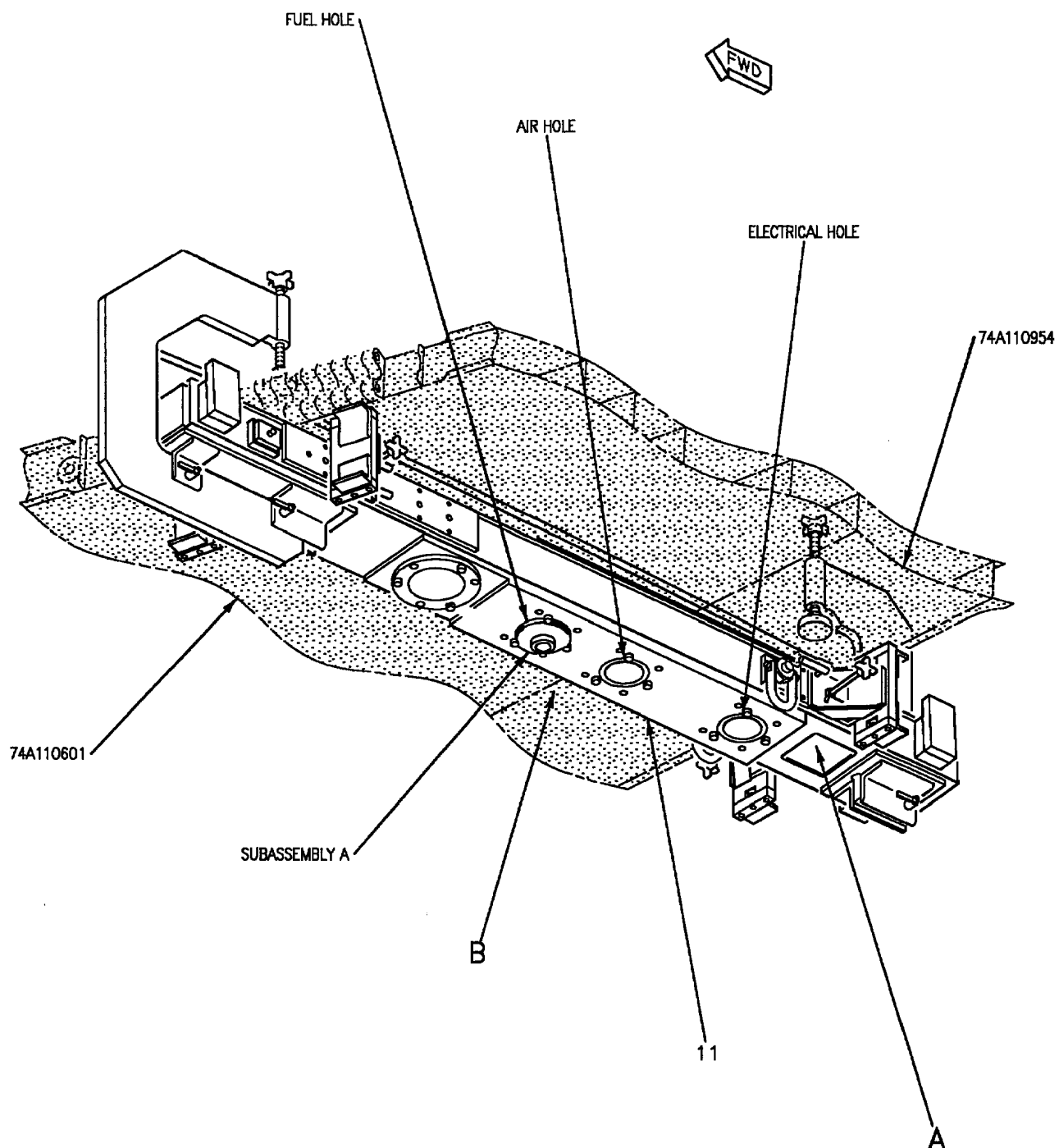
Figure 3. Installation of Pylon Bushing Tool Set on Wing (Sheet 9)

Detail No.	Name	Function
Subassembly C	Locator	Locates tool at aft spar for inboard pylon position.
Subassembly D	Locator	Locates tool at aft spar for outboard pylon position.
Subassembly E	Locator	Locates tool at forward spar for inboard pylon position.
Subassembly F	Locator	Locates tool at forward spar for outboard pylon position.
Subassembly G	Locator	Locates tool at aft spar for inboard pylon position.
Subassembly H	Locator	Locates tool at aft spar for outboard pylon position.
Subassembly J	Locator	Locates tool at forward spar for outboard pylon position.
Subassembly K	Locator	Locates tool at forward spar for inboard pylon position.
Subassembly N	Aft Spar Pin	Locates tool at aft spar holes.
11	Frame	Main locator and support for all details and subassemblies.
12	Support Assembly	Supports and locates tool at forward spar for inboard pylon position.
13	Support Assembly	Supports and locates tool at forward spar for outboard pylon position.
14	Pylon Bushing Pin	Locates tool at inboard pylon attach point for nominal bushing.
26	Strap Guide Assembly	Guides strap across wing to support tool.
36	Support Assembly	Supports and locates tool at aft spar.
37	Strap	Secures tool to wing for installation.
49	Pylon Bushing Pin	Locates tool at outboard attach point for nominal bushing.
51, 52, 53	Pylon Bushing Pin	Locates tool in position at pylon post bushing.
106	Angle	Attaches support assembly to frame.
108	Hand Knob	Secures subassemblies C, D, E, F, G, H, J, and K to frame.
116	Bushing Guide	Locates pylon bushing pin for alignment of tool at pylon attach point.
122	Hand Knob	Secures support assembly to wing.
127	Pad	Secures support assembly to wing.

Figure 3. Installation of Pylon Bushing Tool Set on Wing (Sheet 10)

Detail No.	Name	Function
130	Lock Button	Secures subassembly N in aft spar hole.
134	Angle	Attaches support assembly to frame.
136	Strap Ring	Holds strap to strap guide assembly.
139	Lock Button	Secures pylon bushing pin to bushing guide.
140	Flat Head Socket Cap Screw	Attaches bushing guide to frame.
141	Drill Plate	Guides drill for aft spar holes at left side inboard pylon position.
142	Drill Plate	Guides drill for aft spar holes at left side outboard pylon position.
143	Drill Plate	Guides drill for aft spar holes at right side inboard pylon position.
144	Drill Plate	Guides drill for aft spar holes at right side outboard pylon position.
146	Shim	Locates details 141, 142, 143, and 144.
176	Flat Head Socket Cap Screw	Attaches drill plates and shim to frame.
179	Lock Pin	Locates and attaches support assemblies to frame.
182	Hand Knob	Attaches strap guide assembly to frame.
183	Hand Knob	Attaches strap guide assembly to frame.
185	Adjustment Nut	Adjusts subassemblies C, D, E, F, G, H, J, and K for installation of frame on wing.
204	L-Pin	Locates and attaches subassemblies C, D, H, and G.
213	L-Pin	Locates and attaches subassemblies E, F, J, and K.

Figure 3. Installation of Pylon Bushing Tool Set on Wing (Sheet 11)



04040401

Figure 4. Drilling Holes at Inboard and Outboard Pylon Positions (Sheet 1)

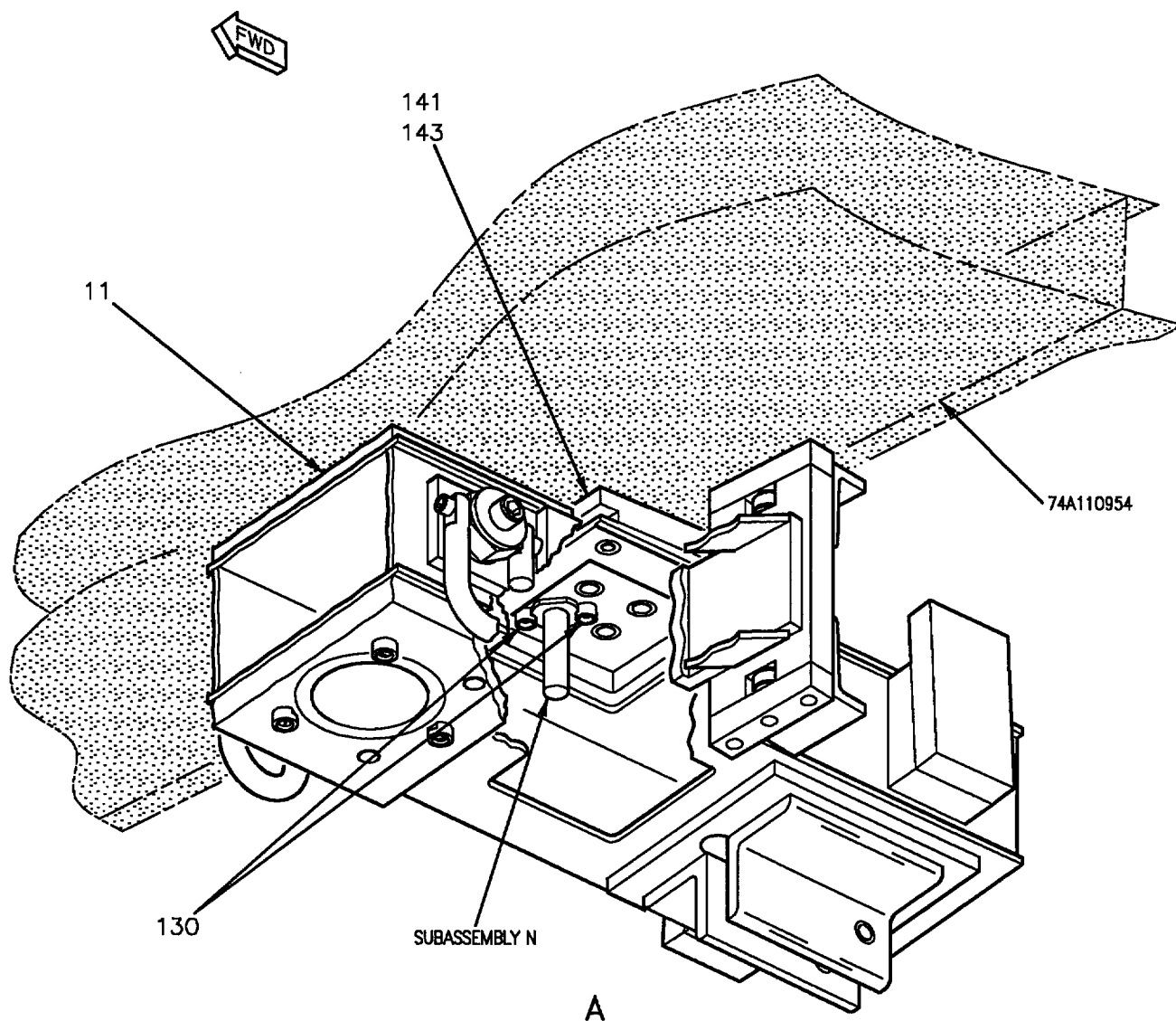
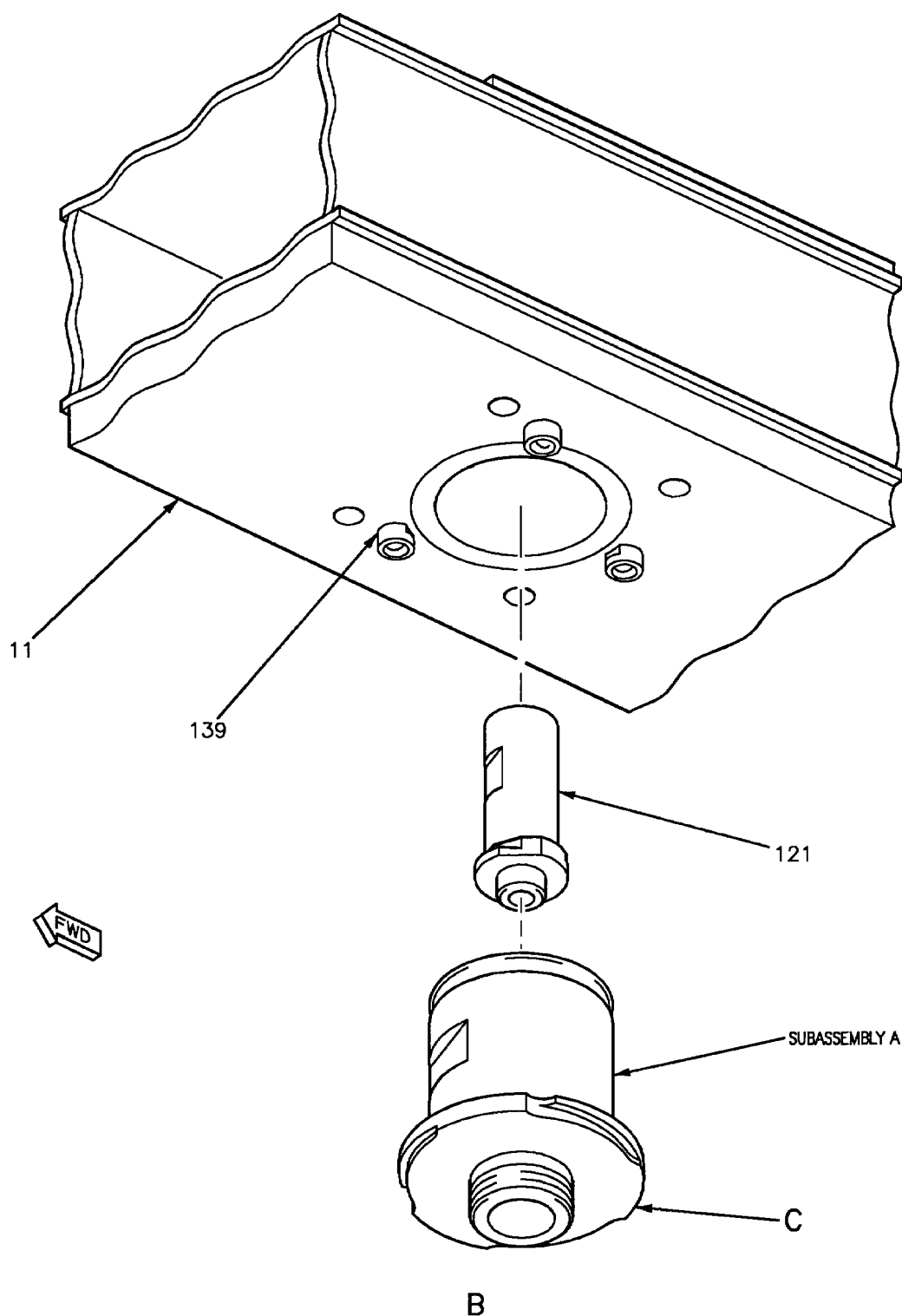


Figure 4. Drilling Holes at Inboard and Outboard Pylon Positions (Sheet 2)



TYPICAL INSTALLATION OF
SUBASSEMBLY A FOR AIR,
FUEL, AND ELECTRICAL HOLES

04040403

Figure 4. Drilling Holes at Inboard and Outboard Pylon Positions (Sheet 3)

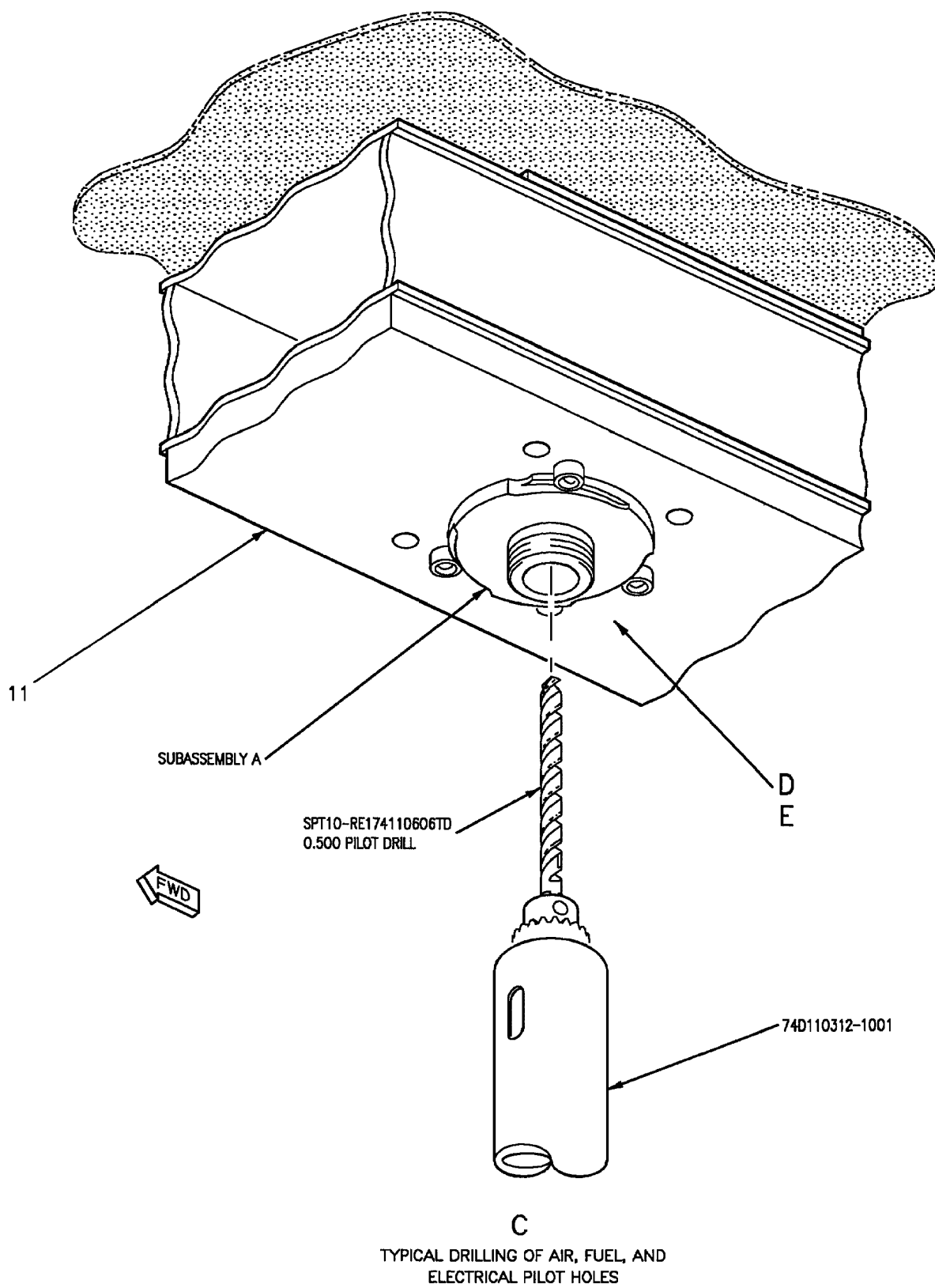
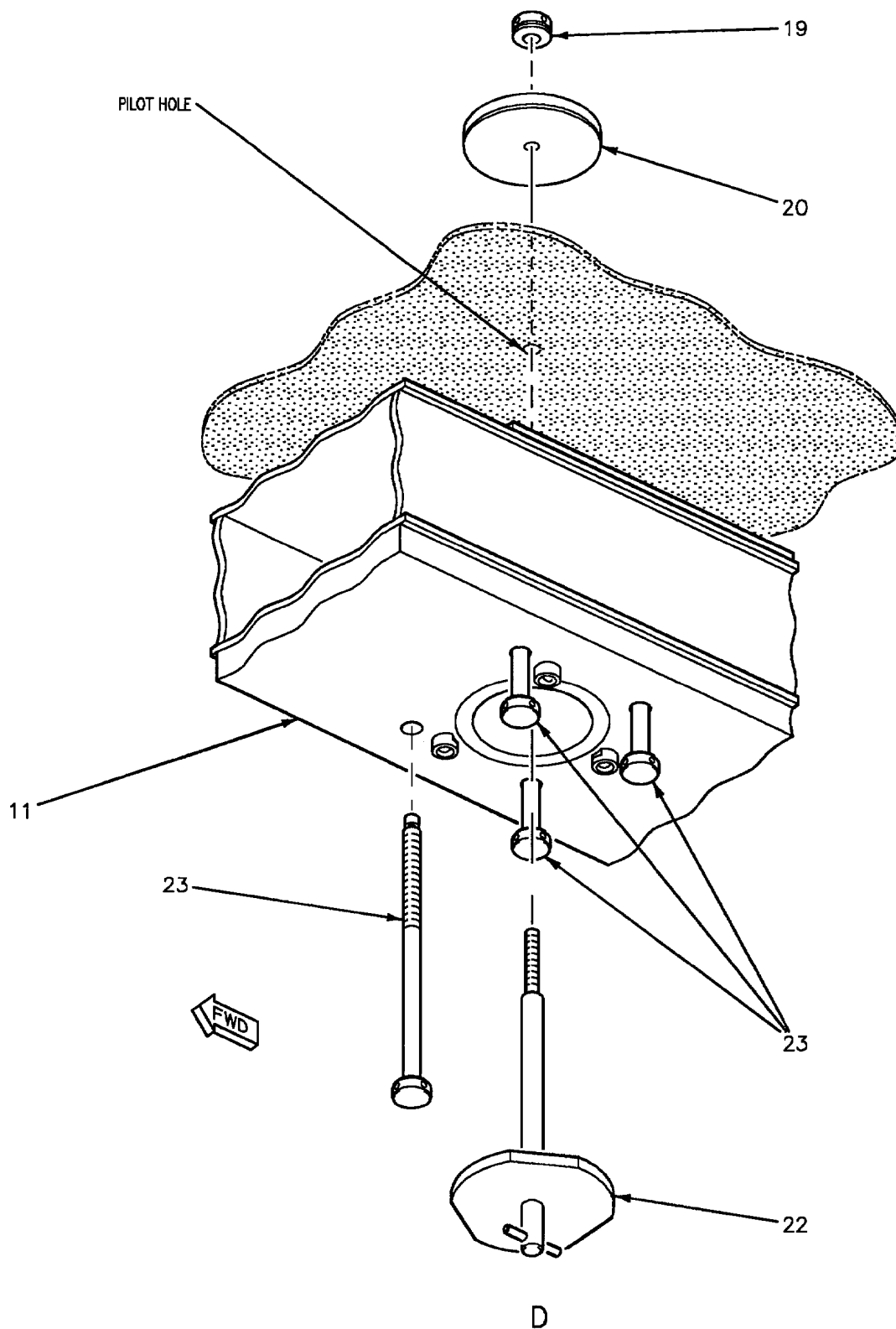


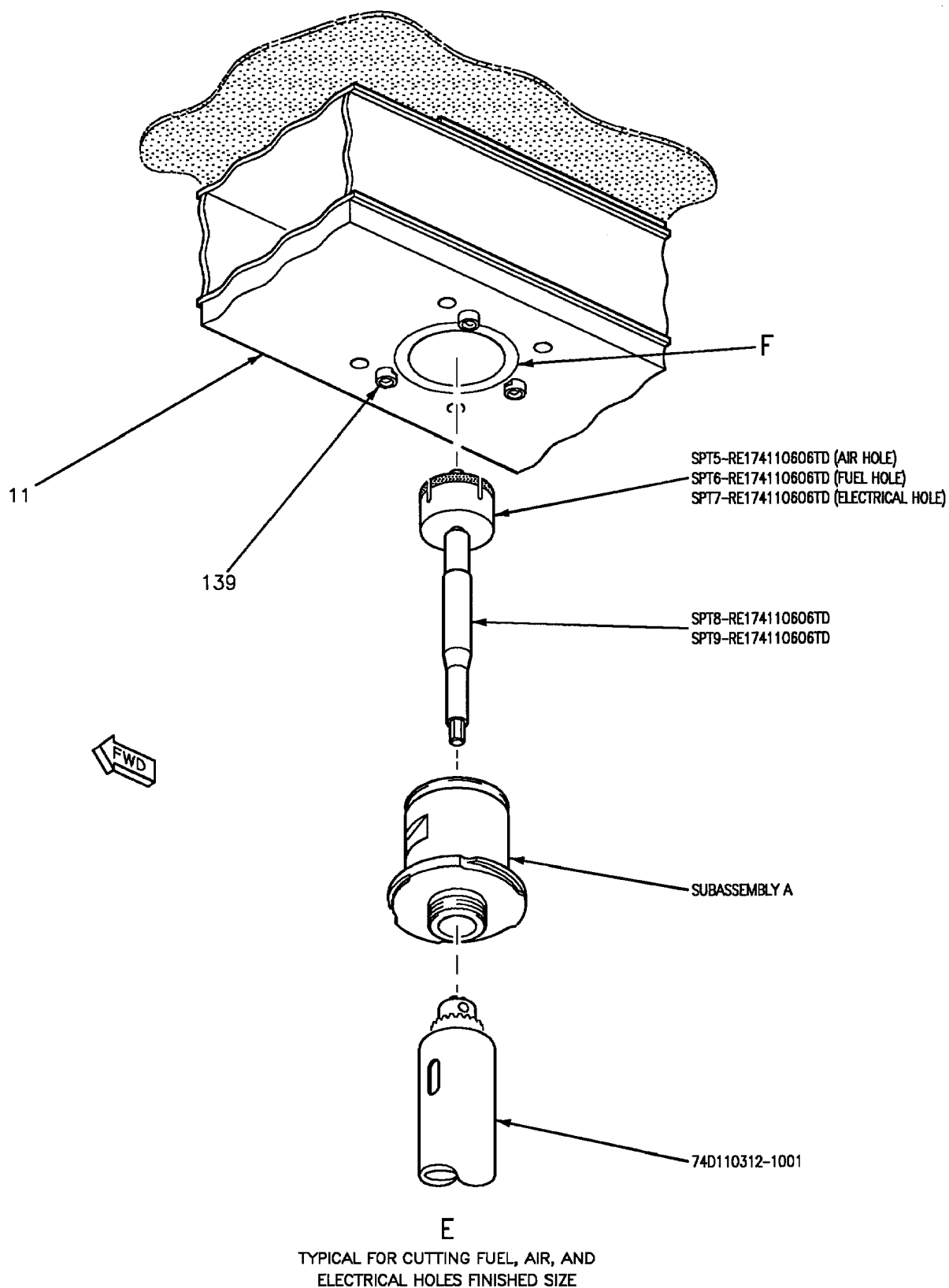
Figure 4. Drilling Holes at Inboard and Outboard Pylon Positions (Sheet 4)



TYPICAL CLAMPING ARRANGEMENT ONLY AT FUEL AND
AIR HOLES AFTER DRILLING PILOT HOLES

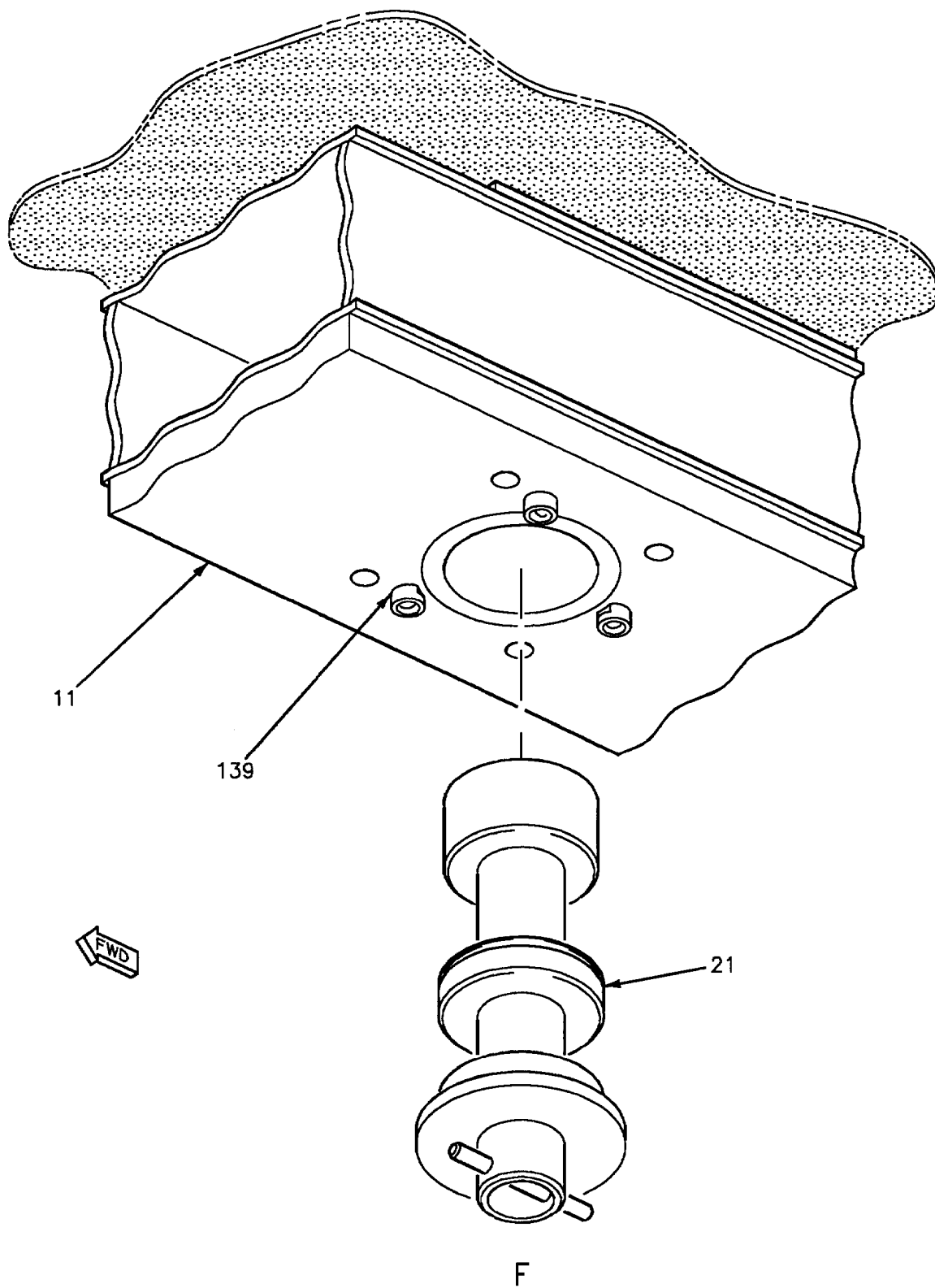
Figure 4. Drilling Holes at Inboard and Outboard Pylon Positions (Sheet 5)

04040405



04040406

Figure 4. Drilling Holes at Inboard and Outboard Pylon Positions (Sheet 6)



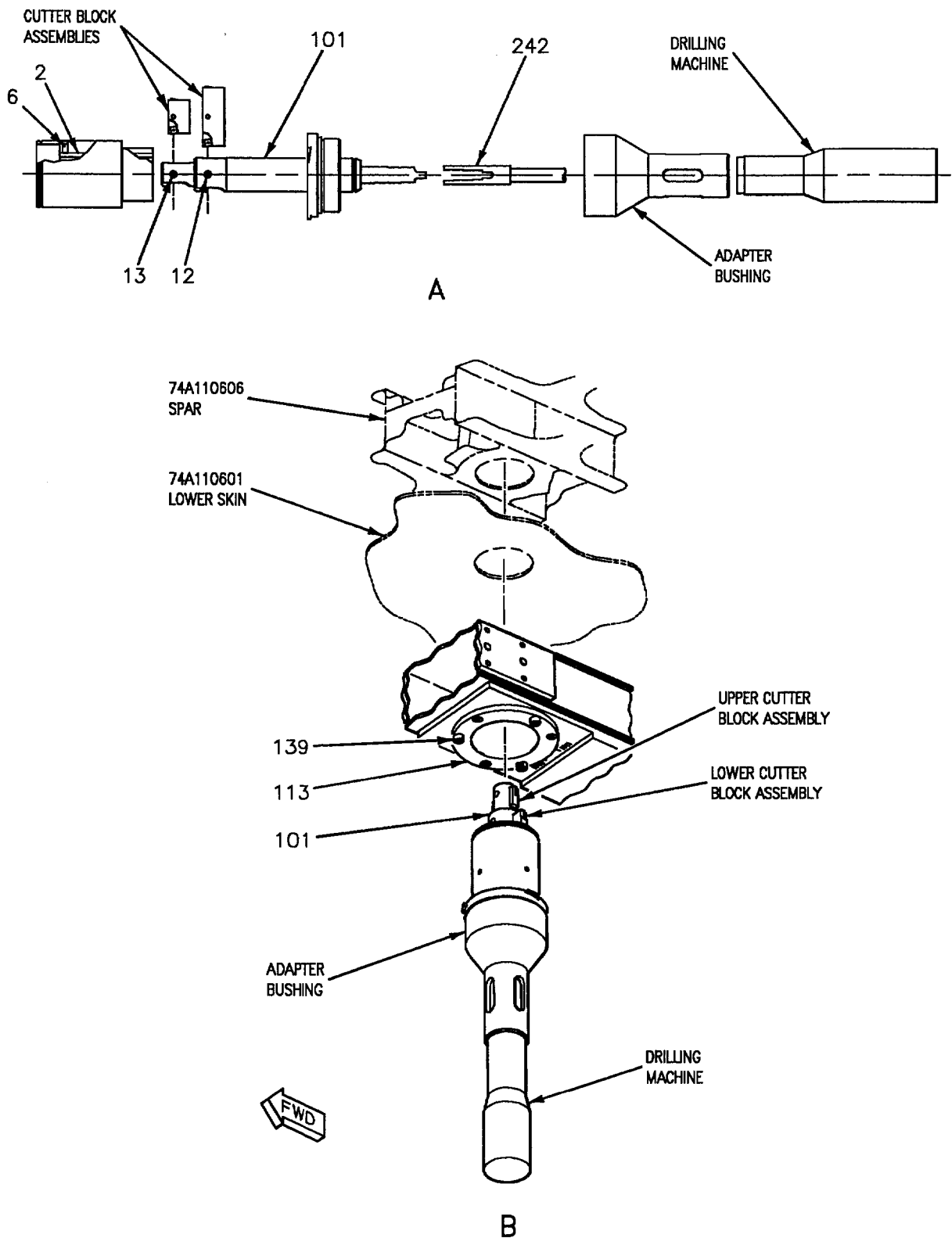
PINNING ELECTRICAL HOLE BEFORE CUTTING
FUEL & AIR HOLES FINISHED SIZE

04040407

Figure 4. Drilling Holes at Inboard and Outboard Pylon Positions (Sheet 7)

Detail No.	Name	Function
Subassembly A	Drill Guide	Guides drilling machines and cutters for drilling holes.
Subassembly N	Aft Spar Pin	Locates tool at aft spar pylon hook holes.
11	Frame	Main locator and support for all details and subassemblies.
19	Nut	Secures clamp and cap at attach point holes.
20	Cap	Supports clamp at attach point holes.
21	Pin	Locates tool at drilled electrical hole.
22	Clamp	Secures tool at drilled attach point holes.
23	Jackscrew	Maintains distance and steadiness of tool on wing.
121	Drill Guide	Guides drilling machine and pilot drill.
130	Lock Button	Secures subassembly N in tool.
139	Lock Button	Secures subassembly A in tool.
141	Drill Plate	Guides drill for aft spar holes at left side inboard pylon position.
142	Drill Plate	Guides drill for aft spar holes at left side outboard pylon position.
143	Drill Plate	Guides drill for aft spar holes at right side inboard pylon position.
144	Drill Plate	Guides drill for aft spar holes at right side outboard pylon position.

Figure 4. Drilling Holes at Inboard and Outboard Pylon Positions (Sheet 8)



04040501

Figure 5. Boring Structure/Splice Fitting, Installation and Boring of Inboard Pylon Post Bushings (Sheet 1)

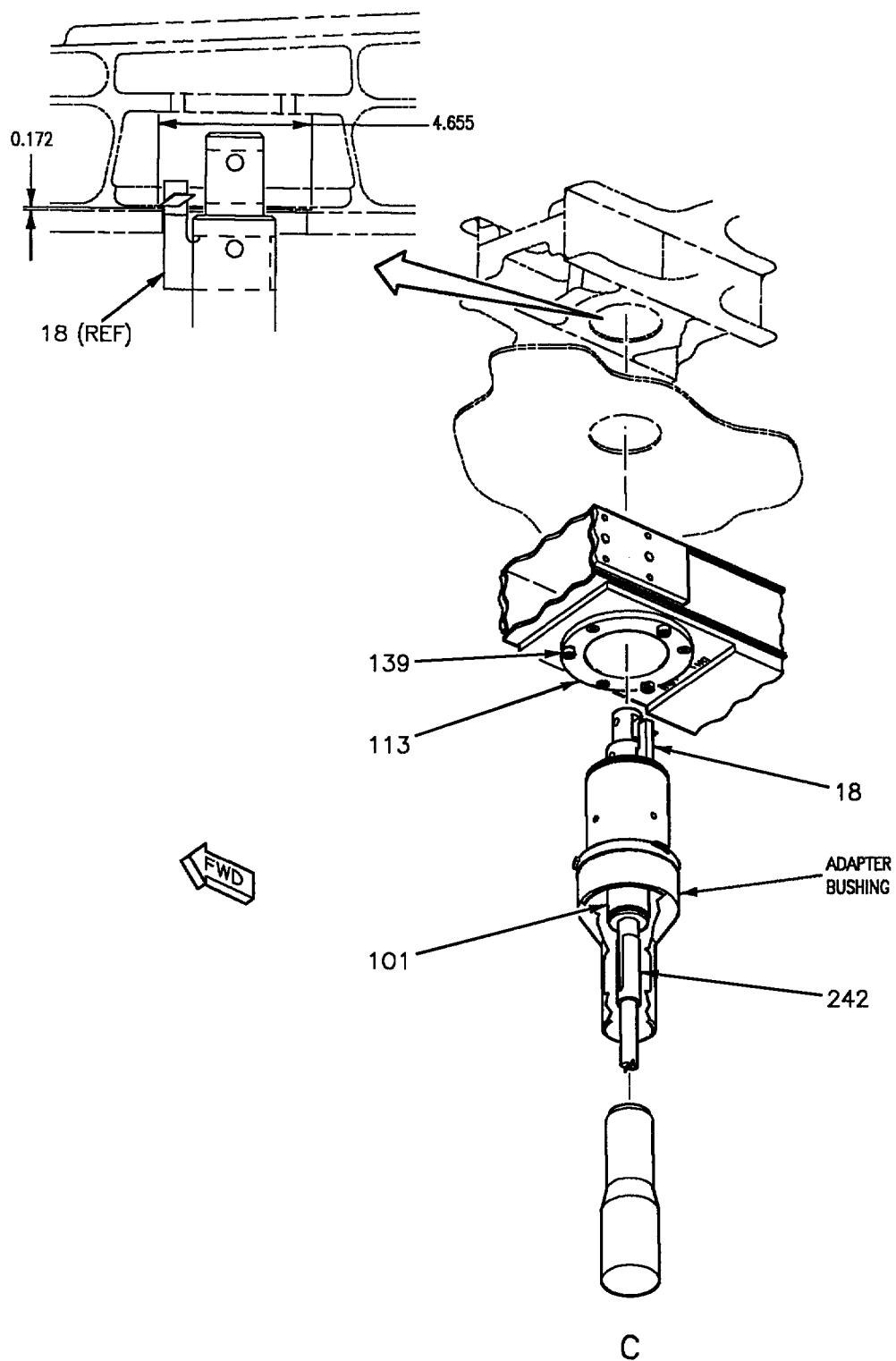
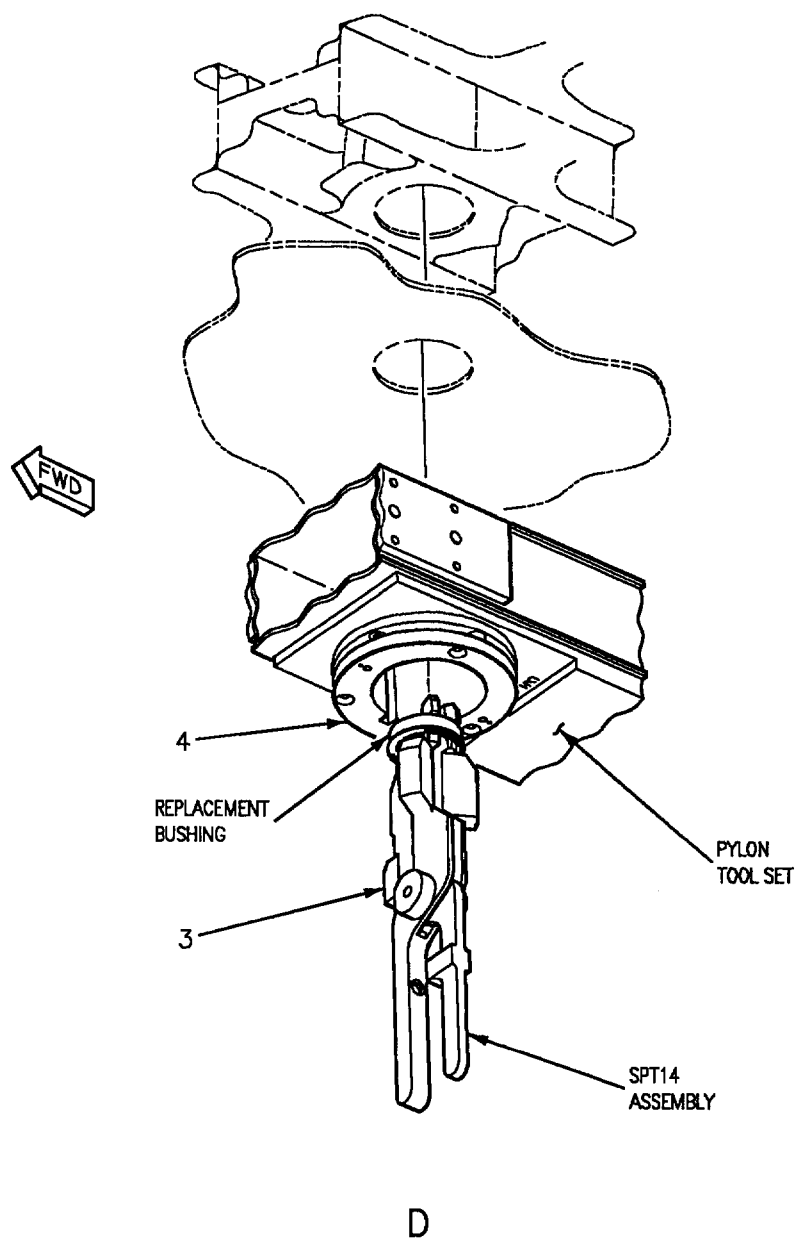
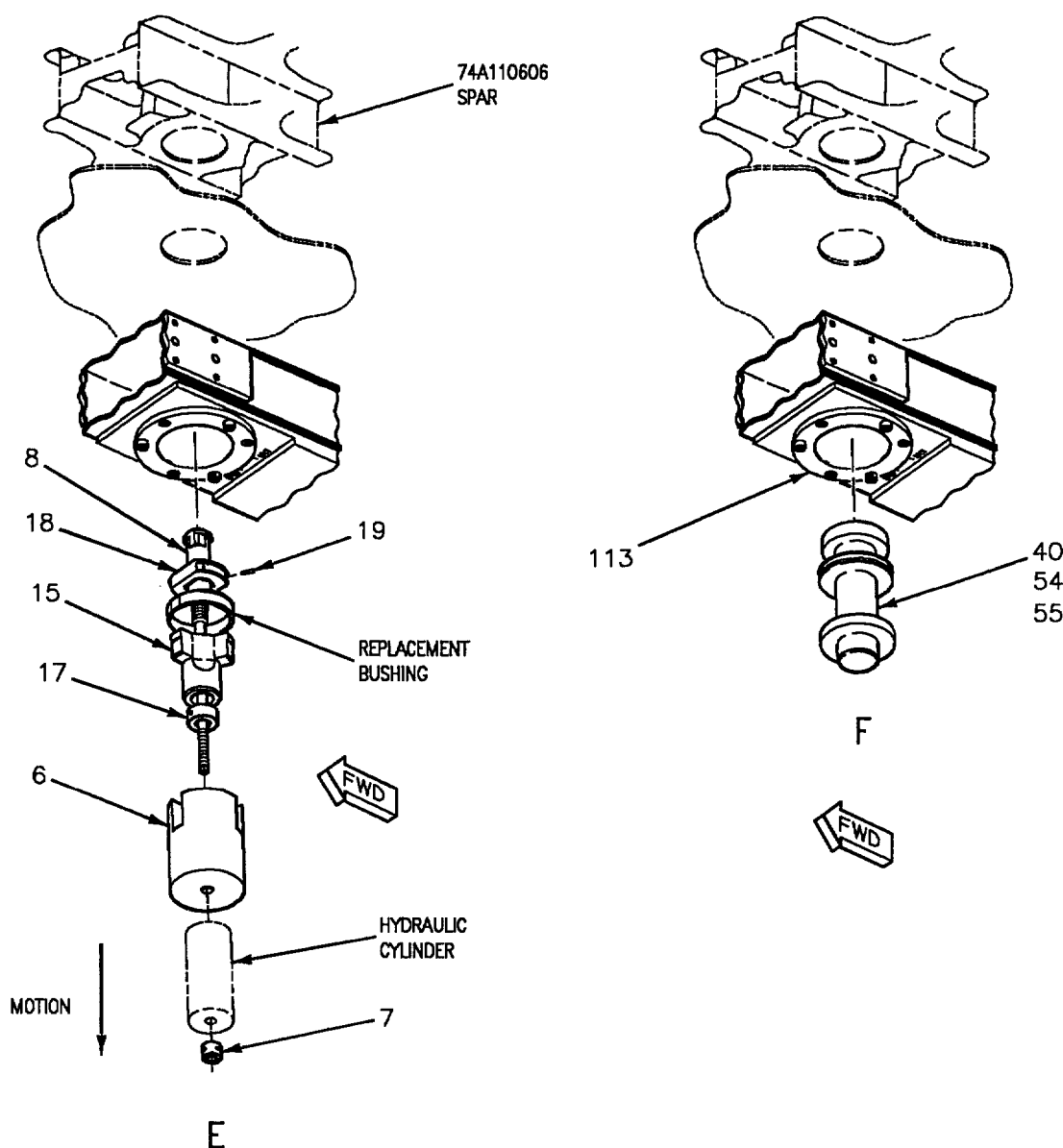


Figure 5. Boring Structure/Splice Fitting, Installation and Boring of Inboard Pylon Post Bushings (Sheet 2)



04040503

Figure 5. Boring Structure/Splice Fitting, Installation and Boring of Inboard Pylon Post Bushings (Sheet 3)



04040504

Figure 5. Boring Structure/Splice Fitting, Installation and Boring of Inboard Pylon Post Bushings (Sheet 4)

TABLE 1.SPT AND CUTTER DETAILS FOR INBOARD PYLON BUSHINGS																			
OPERATION	PASS NO.	ARBOR AND LOCK SCREWS	DETAILS OF SPT'S						CUTTER DIAMETER		CUT		OVERSIZE		TOOL NUMBER				
			UPPER DIAMETER			LOWER DIAMETER			UPPER	LOWER	ROUGH	FINISH	0.030	0.060					
			CUTTER BLOCK ASSEMBLY			CUTTER BLOCK ASSEMBLY													
			BLOCK	LOCK PIN	INSERT	BLOCK	LOCK PIN	INSERT											
BORING SPAR AND LOWER SKIN (INBD)	1	1➤	-20	-14	-11	-16	-14	-11	2.850	3.608	X				SPT-RE174110606TD				
	2					-2				3.850									
	3					-21				-17						3.070	4.100		
	4									-18							4.320		
	5									-19							4.360		
	6		-12	-6 THRU -9	-1	-13	-6 THRU -9	-1	3.125	4.375		X				SPT3-RE174110606TD			
SPOTFACE	7					-18	-19	-2		4.600									
BORING LOWER SKIN ONLY (INBD)	1		2➤				-16	-14	-11		3.608	X				SPT-RE174110606TD			
	2						-2				3.850								
	3						-17				4.100								
	4	-18					4.320												
	5	-19					4.360												
	6	-13					-6 THRU -9				-1							4.375	
	6	-14		-6 THRU -9	-1				3.155		X	X		SPT3-RE174110606TD					
-16		-6 THRU -9		-1					3.185						X				
BORING SPAR ONLY (INBD)	1	-20		-14	-11				2.850		X				SPT-RE174110606TD				
	2								3.070										
	3								3.110										
	4								3.125										
	4						-15	-6 THRU -9	-1		4.405	X	X			SPT3-RE174110606TD			
-17		4.435					X												
-18		-19									-2				4.600				
SPOTFACE	5				-7	-14	-11	2.350	3.850	X			SPT-RE174110606TD						
BORING INBOARD BUSHING	1				-9									-4	-14	-11	2.440	3.940	
	2				-10									-5			2.485	3.985	
	3				-10	-5,-7,-8 &-9	-1	-11	-6 THRU -9	-1	2.500	4.000					X		SPT3-RE174110606TD
BORING SPAR ONLY (INBD) ON AIRCRAFT - OVERSIZE	1A	-14		-6 THRU -9	-1	-15	-6 THRU -9	-1	3.155	4.405		X	X		SPT3-RE174110606TD				
	1B	-16				-17			3.185	4.435						X		X	
SPOTFACE	2				-18	-19	-2		4.600	X				SPT-RE174110606TD					
BORING INBOARD BUSHING ON AIRCRAFT	1	-6		-14	-11	-1	-14	-11	2.300						3.800				
	2	-7				-2			2.350						3.850				
	3	-8				-3			2.400						3.900				
	4	-9				-4			2.440						3.940				
	5	-10				-5			2.485						3.985				
	6	-10	-5,-7,-8 &-9	-1	-11	-6 THRU -9	-1	2.500	4.000							X		SPT3-RE174110606TD	

LEGEND 1 SPT-RE174110606TD, DETAILS 12, 13, AND 101.
2 SPT3-RE174110606TD, DETAILS 3, 4, AND 101.

Figure 5. Boring Structure/Splice Fitting, Installation and Boring of Inboard Pylon Post Bushings (Sheet 5)









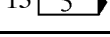






Detail No.	Name	Function
2 	Bearing	Aligns boring bar of SPT-/SPT3.
3 	Block	Aligns rotation of SPT14 assembly into tool set and structure.
3, 4 	Lock Screw	Secure cutter boring bar.
4 	Guide Bushing	Aligns SPT14 assembly for installation into structure.
6 	Cover	Installs over pulling mechanism of SPT13.
6 	Socket Set Screws	Adjust alignment of bearing (detail 2).
7 	Knurled Nut	Secures hydraulic cylinder in place on rod.
8 	Rod	Connects collet to hydraulic cylinder.
12, 13 	Lock Screws	Secure cutter boring bar.
15 	Backup	Backs up to replacement bushing for alignment at installation.
17 	Knurled Nut	Secures backup against collet and bushing.
18 	Cutter Block	Cuts spotface surface in spar.
18 	Collet	Inserts in replacement bushing for pressing bushing into spar.
19 	Set Screw	Secures replacement bushing to collet.
40	Bushing Pin	Locates tool set by pinning at lower skin, for nominal size.
41	Bushing Pin	Locates tool set by pinning at upper bushing when replacing lower skin.
47	Bushing Pin	Locates tool set by pinning at spar for lower skin and spar replacement.
54	Bushing Pin	Locates tool set by pinning at lower skin, for first oversize.
55	Bushing Pin	Locates tool set by pinning at lower skin, for second oversize.
101 	Boring Bar	Rotates cutter blocks to bore holes in structure or bushings.
113, 116	Guide Bushing	Locates pylon bushing pin for alignment of tool at pylon attach point.
139	Lock Button	Secures details to guide bushing.
242	Boring Bar Adapter	Attaches boring bar to drill motor.

Figure 5. Boring Structure/Splice Fitting Installation and Boring of Inboard Pylon Post Bushings (Sheet 6)

Detail No.	Name	Function
LEGEND		
NOTE		
Detail numbers not flagged are part of the RE174110606 pylon bushing tool set.		
1	Part of SPT3-RE174110606TD.	
2	Part of SPT13-RE174110606TD.	
3	Part of SPT14-RE174110606TD.	
4	Part of SPT16-RE174110606TD.	
5	Part of SPT-RE174110606TD.	

Figure 5. Boring Structure/Splice Fitting Installation and Boring of Inboard Pylon Post Bushings (Sheet 7)

19. **BORING UPPER AND LOWER SKINS, INSTALLATION AND BORING OF OUTBOARD PYLON POST BUSHING.** See figure 6. These procedures are for boring when replacing both upper and lower skins; upper skin only; lower skin only; replacing the 74A110698 structural support.

Support Equipment Required

Part Number or Type Designation	Nomenclature
74D110314-1005	Drilling Machine, Positive Feed, 110 RPM
RCH-123	Hydraulic Cylinder
-	Torque Wrench 0 to 120 Inch-Pounds

Materials Required

None

20. **Upper and Lower Skin Replacement.** When both skins are being replaced, bore skins and spot-face structural support per steps below:

a. Install tool set on wing in inner wing maintenance fixture per Installation of Pylon Bushing Tool Set for Wing in Maintenance Fixture, this WP; or install tool set on wing per Installation of Pylon Bushing Tool Set on Wing, this WP, as applicable, except install pin (detail 48) and locator (detail 221).

b. Secure tool set in position using C-clamps at both forward and aft ends. Provide protection between clamps and wing.

NOTE

Pylon bushing pin must be free to rotate and be removed.

c. On a work surface, assemble 74D110314-1005 drilling machine, SPT16-74110606TD adapter bushing, RE174110606 boring bar adapter (detail 242), and SPT11-RE174110606TD boring bar (detail 101), view A. For drilling machine (A1-F18AC-SRM-200, WP004 17).

d. Attach air feed line to drilling machine.

e. With drilling machine firmly attached to work surface, turn drilling machine on.



Be careful not to come into contact with rotating equipment while adjusting clearance, injury or damage to equipment may occur.

NOTE

Listen for a change in pitch of drilling machine, while operating under a no-load condition, which indicates zero clearance has been reached.

f. Carefully adjust socket set screws (detail 6 of SPT16) against bearing (detail 2 of SPT16), four places, to get 0.000 clearance between boring bar and bearing, view A.

NOTE

Clearance shall be inspected often, and shall be inspected before any finish cut.

g. Turn drilling machine off.

h. Measure finish diameters of cutter block assemblies to make sure they have been inspected and sealed, view A. See table, this figure, for applicable cutter block information.

i. Slide cutter block assemblies onto boring bar (detail 101 of SPT11) arbor and attach with lock screws (details 3 and 4 of SPT11), view A.

j. Torque lock screws to 75 inch-pounds, view A.

k. Slide adapter bushing, boring bar, and drilling machine into the tool set, and secure into bushing guide (detail 287) by engaging lock buttons (detail 139), view B.

l. Bore a 3.125 diameter hole in-line with a 4.375 diameter hole in upper and lower skins, view B. See table, this figure, for applicable cutter details.

m. Remove drilling machine from tool set, and remove cutter block assemblies from SPT11 arbor.

n. On a work surface, assemble 74D110314-1005 drilling machine, SPT16-RE174110606TD adapter

bushing RE174110606 boring bar adapter (detail 242), SPT11-RE174110606 cutter block (detail 18) and boring bar (detail 101 of SPT 11), view C. For drilling machine (A1-F18AC-SRM-200, WP004 17).

o. Retorque lock screws to 75 inch-pounds, view C.

p. Slide adapter bushing, boring bar and drilling machine assembly, into the tool set, and secure into guide bushing (detail 287) by engaging lock buttons (detail 139), view C.

q. Cut a 3.545 diameter spot-face in 74A110698 support, to dimension shown, view C. See table 1 for applicable cutter information. Inspect spot-face for correct diameter and depth dimension.

r. Install and bore pylon post bushing per Installation and Boring of Outboard Pylon Post Bushing, this WP.

21. Upper Skin Only or Lower Skin Only Replacement. When replacing either upper or lower skin, bore skin and install bushing per steps below:

NOTE

Differences in tool set installation between upper and lower skins are indicated as required.

a. Install tool set on wing in inner wing maintenance fixture per Installation of Pylon Bushing Tool Set for Wing in Maintenance Fixture, this WP; or install tool set on wing per Installation of Pylon Bushing Tool Set on Wing, this WP, as applicable, except as below:

(1) When replacing upper skin only, install pin (detail 40, 54, or 55), view F.

(2) When replacing lower skin only, install pin (detail 50) and locator (detail 222, 246, or 247), view E.

b. Repeat Upper and Lower Skin Replacement, this WP, steps b thru r. Bore hole in skin being replaced only. See table, figure 6, for cutter information.

22. Structural Support, 74A110698, Replacement.

a. Install tool set on wing in inner wing maintenance fixture per Installation of Pylon Bushing Tool Set for Wing in Maintenance Fixture, this WP; or

install tool set on wing per Installation of Pylon Bushing Tool Set on Wing, this WP, as applicable.

b. Secure tool set in position using C-clamps at both forward and aft ends. Provide protection between clamps and wing.

NOTE

Pylon bushing pin must be free to rotate and be removed.

c. Inspect 3.125 diameter hole in upper skin, and 4.375 diameter hole in lower skin.



Titanium splice plates have been work hardened during pylon bushing removal, be careful not to damage cutter clock.

d. Machine holes to first or second oversize, as required. See table, this figure, for applicable cutter information.

e. Install replacement structural support.

f. Cut a 3.545 diameter spot-face in replacement support to dimension shown, view C. See table, this figure, applicable cutter information. Inspect spot-face for correct diameter and depth dimension.

g. Install and bore pylon post bushing per Installation and Boring of Outboard Pylon Post Bushing, this WP.

23. Installation and Boring of Outboard Pylon Post Bushing.

a. Assemble details SPT15-74A11606TD: locator (detail 7), pin (detail 8), locator (detail 10), socket head cap screw (detail 11), block (detail 14), and socket head cap screw (detail 15), view D.

b. Torque socket head cap screw (detail 11) to 65 inch-pounds, view D.

c. Load replacement bushing onto pin (detail 8), engaging the tapered, hole of bushing onto locator (detail 7), view D.

d. Locate sleeve (detail 19) for left side, or sleeve (detail 12) for right side, onto pin (detail 8) next to the bushing. Secure sleeve (detail 19, or 12) in place with knurled nut (detail 18), view D.

e. Install guide bushing (detail 21 of SPT15) into tool set and secure in place, view D.

f. Insert assembled SPT15 through tool set and into wing structure, engaging block (detail 14) into keyway of guide bushing (detail 21), and sleeve (detail 19, or 12) through upper skin, view D.

g. Slide locator (detail 3) and spacer (detail 9) onto pin (detail 8), view D.

h. Insert rod (detail 17) through hydraulic cylinder and thread into pin (detail 8). Attach safety cap to hydraulic cylinder, view D.

i. Connect hydraulic hoses to hydraulic, and air feed line to the pump.

j. Install bushing by pulling into wing structure, view D.

k. Repeat Upper and Lower Skin Replacement, this WP, steps c thru j.

l. Slide adapter bushing, boring bar, and drilling machine into the tool set, and secure into bushing guide (detail 116) by engaging lock buttons (detail 139), view B.

m. Bore a 2.500 diameter hole in-line with a 4.000 diameter hole in the outboard pylon post bushing, view B. See table, this figure, for applicable cutter details.

n. Remove drilling machine from tool set, and cutter block assemblies from SPT11.

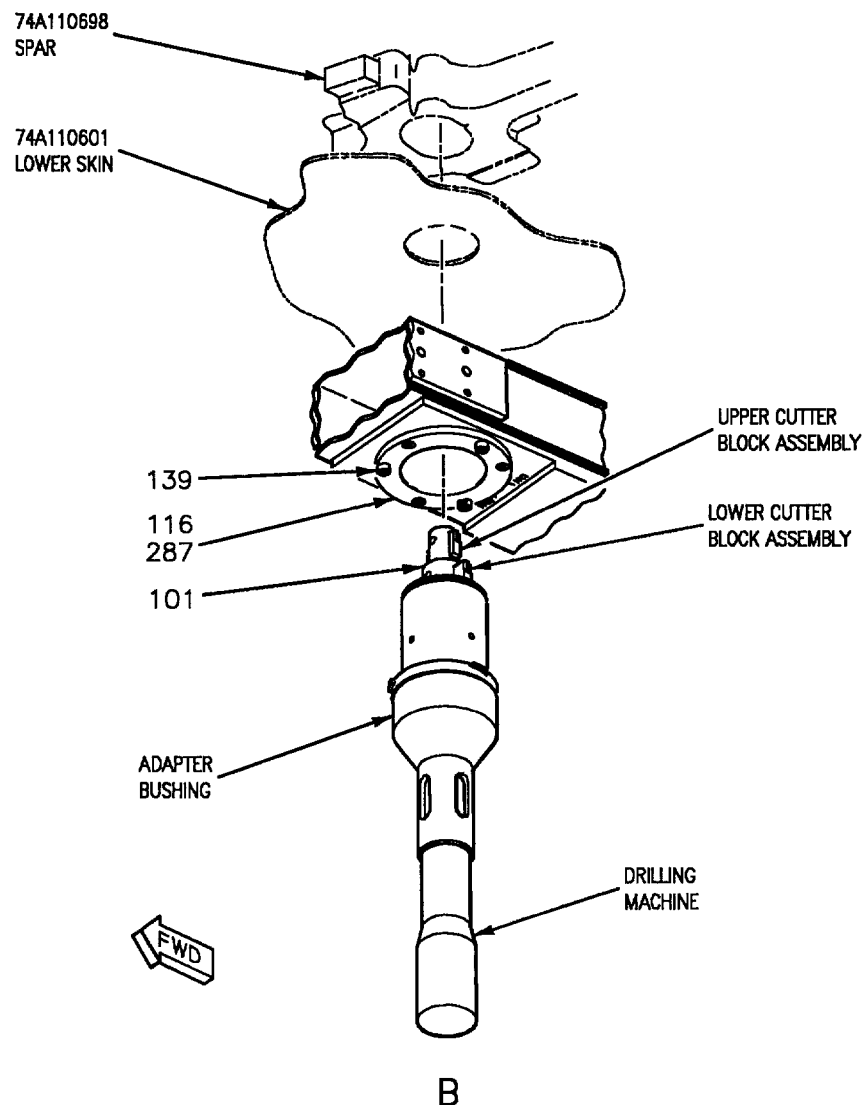
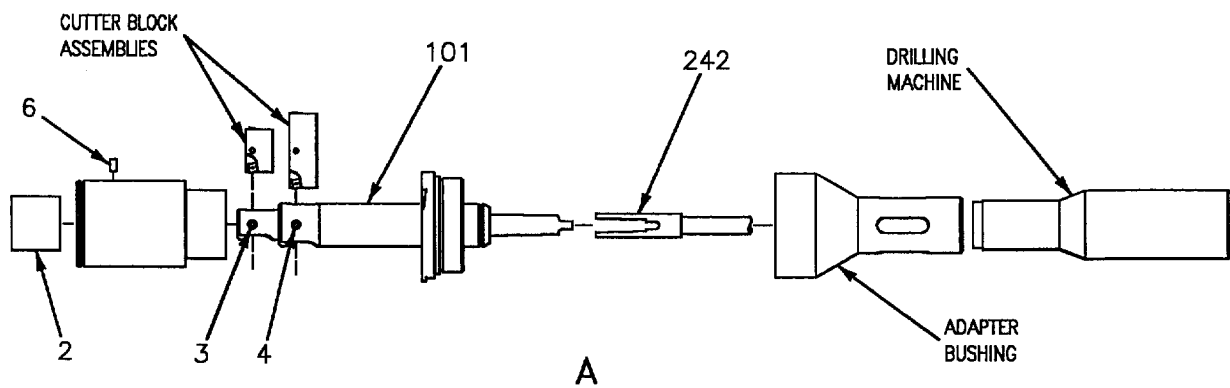
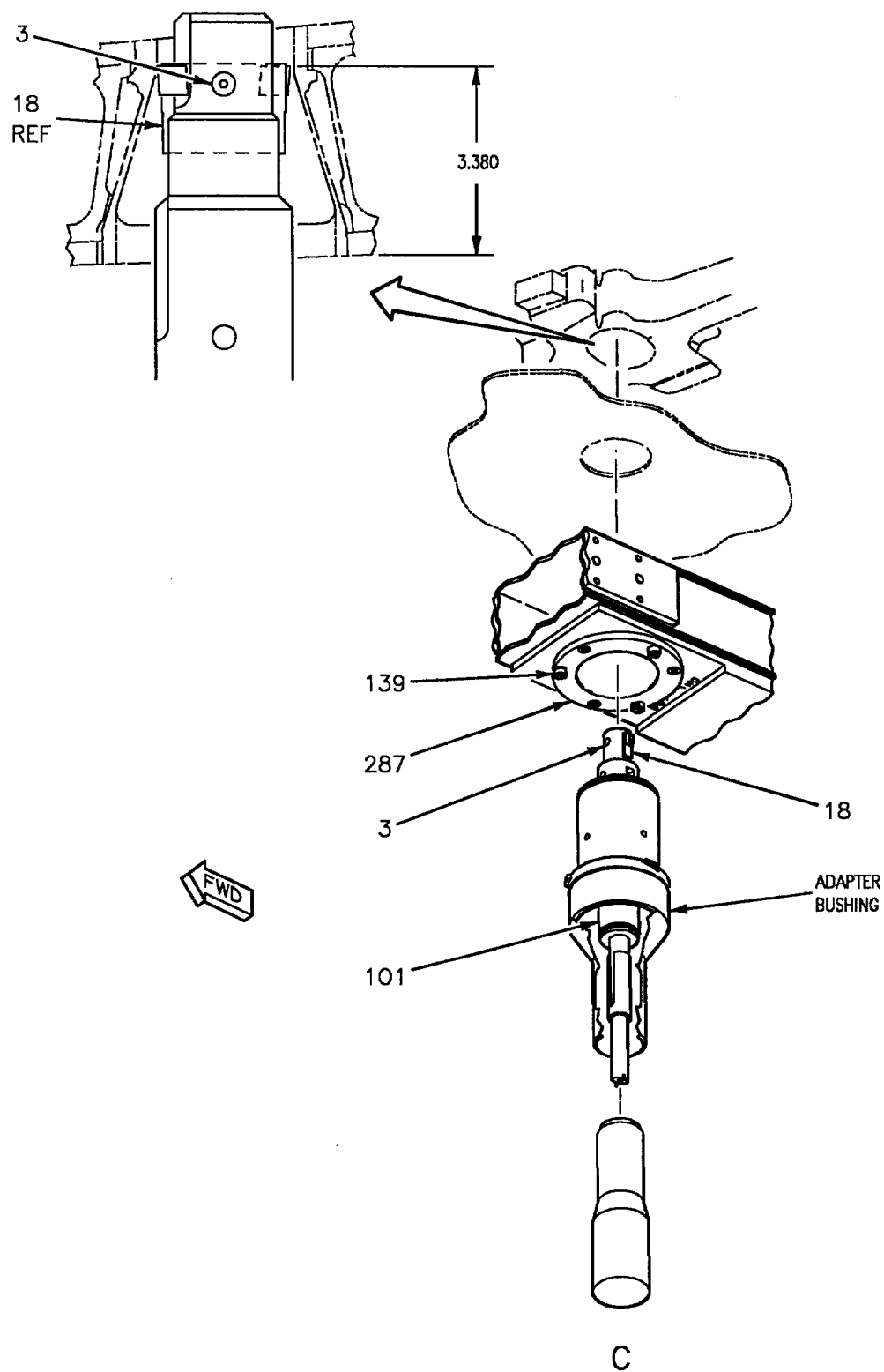


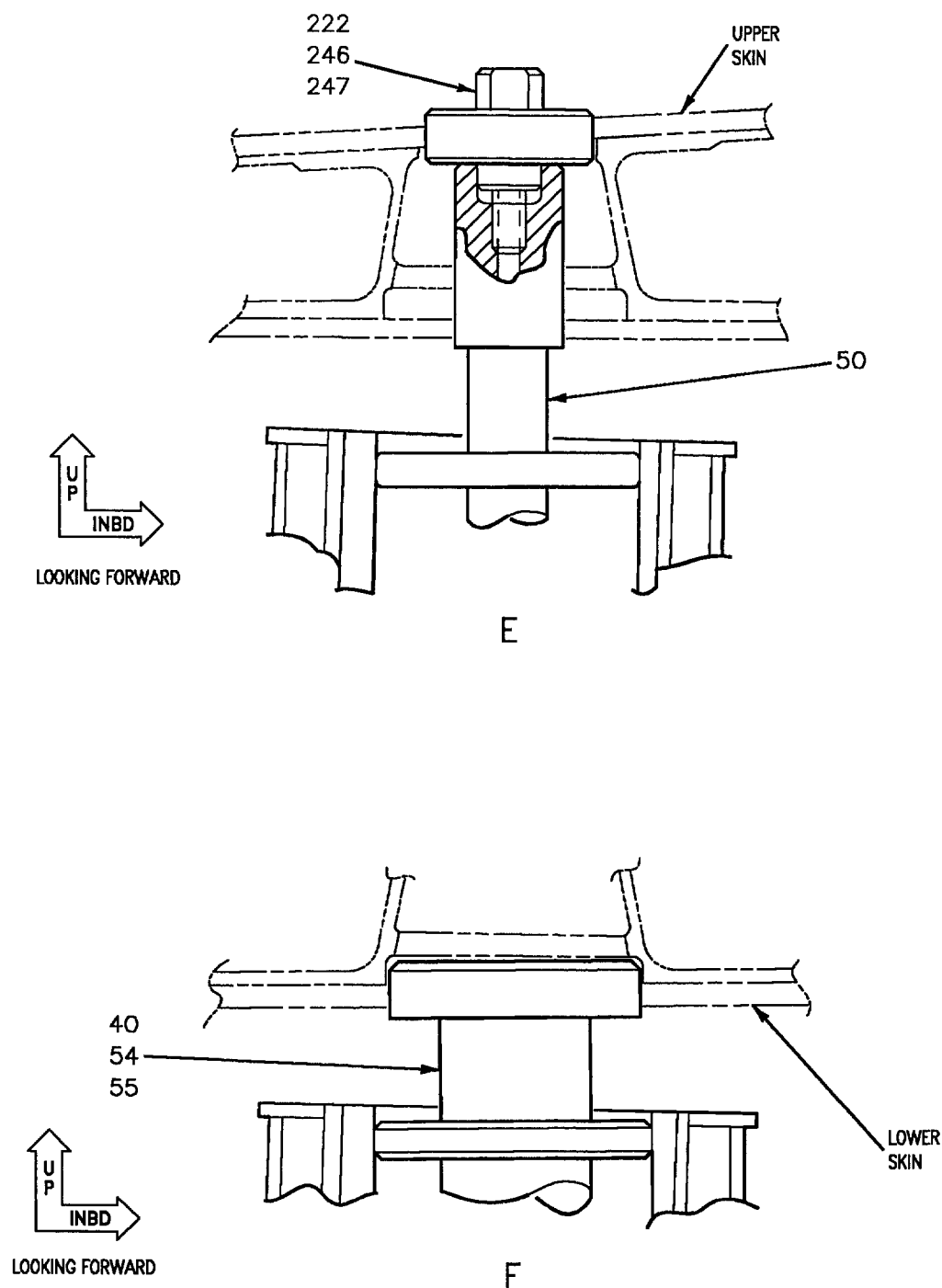
Figure 6. Boring Upper and Lower Skins, Installation and Boring of Outboard Pylon Post Bushing (Sheet 1)

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04040602

Figure 6. Boring Upper and Lower Skins, Installation and Boring of Outboard Pylon Post Bushing (Sheet 2)





04040604

Figure 6. Boring Upper and Lower Skins, Installation and Boring of Outboard Pylon Post Bushing (Sheet 4)

TABLE 1. SPT AND CUTTER DETAILS FOR OUTBOARD BUSHINGS																		
OPERATION	PASS NO.	ARBOR AND LOCK SCREWS	DETAILS OF SPT'S						CUTTER DIAMETER		CUT		OVERSIZE		TOOL NUMBER			
			UPPER DIAMETER			LOWER DIAMETER			UPPER	LOWER	ROUGH	FINISH	0.030	0.060				
			CUTTER BLOCK ASSEMBLY			CUTTER BLOCK ASSEMBLY												
			BLOCK	LOCK PIN	INSERT	BLOCK	LOCK PIN	INSERT										
BORING UPPER AND LOWER SKINS (OUTBD)	1	3➤	-22	-14	-15	-17	-14	-15	2.125	3.375	X				SPT2-RE174110606TD			
	2		-3			-18			2.350	3.608								
	3		-23			-8			2.600	3.850								
	4		-24			-19			2.850	4.100								
	5		-25			-20			3.070	4.320								
	6		-26			-21			3.110	4.360								
	7		-12	-6 THRU -9	-1	-13	-6 THRU -9	-1	3.125	4.375		X			SPT11-RE174110606TD			
SPOTFACE	8		4➤	-18	-19	-2				3.545								
BORING BUSHING (OUTBD)	9			-1	-14	-15	-8	-14	-15	2.200	3.850	X						SPT2-RE174110606TD
	10			-3			-10			2.350								
	11			-5			-11			2.440	3.940							
	12			-6						2.485	3.985							
	13			-10	-5,-7,-8 & -9	-1	-11	-6 THRU -9	-1	2.500	4.000				X			SPT11-RE174110606TD
BORING SKINS FOR 74A110698 REPLACEMENT	1A		-14	-6 THRU -9	-1	-15	-6 THRU -9	-1	3.155	4.405		X	X		SPT11-RE174110606TD			
	1B		-16			-17			3.185	4.435						X		
	2		-18	-19	-2				3.545									
BORING UPPER SKIN ONLY, FOR 74A110698 REPLACEMENT	1	4➤	-22	-14	-15				2.125		X				SPT2-RE174110606TD			
	2		-3						2.350									
	3		-23						2.600									
	4		-24						2.850									
	5		-25						3.070									
	6		-26						3.110									
	7		-12	-6 THRU -9	-1				3.125							SPT11-RE174110606TD		
				-15	-6 THRU -9	-1		4.405		X	X							
							-17				4.435			X				
BORING LOWER SKIN ONLY, FOR 74A110698 REPLACEMENT	1						-17	-14	-15		3.375	X				SPT2-RE174110606TD		
	2						-18				3.608							
	3						-8				3.850							
	4						-19				4.100							
	5	-20								4.320								
	6	-21								4.360								
	7	-13					-6 THRU -9	-1		4.375							SPT11-RE174110606TD	
		-14		-6 THRU -9	-1				3.155			X	X					
		-16							3.185							X		

- LEGEND
- 3 SPT2-RE174110606TD, DETAILS 12, 13, AND 101.
- 4 SPT11-RE174110606TD, DETAILS 3, 4, AND 101.

Figure 6. Boring Upper and Lower Skins, Installation and Boring of Outboard Pylon Post Bushing (Sheet 5)

TABLE 1. SPT AND CUTTER DETAILS FOR OUTBOARD BUSHINGS(CONT.)																
OPERATION	PASS NO.	ARBOR AND LOCK SCREWS	DETAILS OF SPT'S						CUTTER DIAMETER		CUT		OVERSIZE		TOOL NUMBER	
			UPPER DIAMETER			LOWER DIAMETER			UPPER	LOWER	ROUGH	FINISH	0.030	0.060		
			CUTTER BLOCK ASSEMBLY			CUTTER BLOCK ASSEMBLY										
			BLOCK	LOCK PIN	INSERT	BLOCK	LOCK PIN	INSERT								
BORING SPAR ONLY (OUTBD) ON AIRCRAFT – OVERSIZE	1A		-14	-6 THRU -9	-1	-15	-6 THRU -9	-1	3.155	4.405		X	X		SPT11-RE174110606TD	
	1B		-16			-17			3.185	4.435				X		
SPOTFACE	2			-18	-19	-2				3.545						
BORING OUTBOARD BUSHING ON AIRCRAFT	1		-1	-14	-15	-7	-14	-15	2.200	3.800	X				SPT2-RE174110606TD	
	2		-2			-8			2.300							
	3		-3			-9			2.350							3.850
	4		-4			-10			2.400							3.900
	5		-5			-11			2.440							3.940
	6		-6						2.485	3.985						
	7		-10	-5,-7,-8 &-9	-1	-11	-6 THRU -9	-1	2.500	4.000						X

LEGEND

- 3 SPT2-RE174110606TD, DETAILS 12, 13, AND 101.
- 4 SPT11-RE174110606TD, DETAILS 3, 4, AND 101.

Figure 6. Boring Upper and Lower Skins, Installation and Boring of Outboard Pylon Post Bushing (Sheet 6)


















Detail No.	Name	Function
2 	Bearing	Aligns boring bar of SPT11.
3 	Locator	Aligns SPT15 with upper skin.
3,4 	Lock Screws	Secures cutter blocks to boring bar.
6 	Socket Head Cap Screw	Adjusts alignment of bearing (detail 2).
7 	Locator	Locates outboard pylon post bushing for installation.
8 	Pin	Aligns and installs outboard pylon post bushing.
9 	Spacer	Installed on pin (detail 8) between locator and hydraulic cylinder.
10 	Locator	Aligns SPT15 with bushing structure.
11 	Socket Head Cap Screw	Secures assembly of SPT15.
14 	Block	Aligns rotation of SPT15 in tool set.
15 	Socket Head Cap Screw	Attaches block (detail 14) to locator (detail 15).
17 	Rod	Connects hydraulic cylinder to SPT15 through wing structure.
18 	Knurled Nut	Secures pin in place through wing structure.
18 	Cutter Block	Cuts spotface surface in spar.
19, 12 	Sleeve	Aligns with pin for removal.
21 	Guide Bushing	Aligns SPT15 with wing structure for installation/removal of bushing.
40	Pin	Locates tool set by pinning at lower skin, for nominal size.
48	Pin	Locates tool set by pinning at upper skin.
50	Pin	Locates tool set by pinning at upper skin.
54	Pin	Locates tool set by pinning at lower skin, for first oversize.
55	Pin	Locates tool set by pinning at lower skin, for second oversize.
101 	Boring Bar	Rotates cutter blocks to bore holes in structure or bushings.

Figure 6. Boring Upper and Lower Skins, Installation and Boring of Outboard Pylon Post Bushing (Sheet 7)

Detail No.	Name	Function
113	Guide Bushing	Locates pylon bushing pin for alignment of tool at pylon attach point.
116	Guide Bushing	Locates pylon bushing pin for alignment of tool at pylon attach point.
139	Lock Button	Secures details to guide bushing.
221	Locator	Aligns pin with tool set and upper skin.
222	Locator	Aligns pin and tool set with upper skin, for nominal size.
242	Boring Bar Adapter	Attaches boring bar to drill motor.
246	Locator	Aligns pin and tool set with upper skin, for first oversize.
247	Locator	Aligns pin and tool set with upper skin, for second oversize.
287	Guide Bushing	Locates pin for alignment of tool set at pylon attach point when boring upper and lower skins.
<p style="text-align: center;">LEGEND</p> <p>NOTE</p> <p>Detail numbers not flagged are part of the RE174110606 pylon bushing tool set.</p> <p> 1 ▶ Part of SPT16-RE174110606TD. 2 ▶ Part of SPT11-RE174110606TD. 3 ▶ Part of SPT15-RE174110606TD. </p>		

Figure 6. Boring Upper and Lower Skins, Installation and Boring of Outboard Pylon Post Bushing (Sheet 8)

24. **INSPECTION OF PYLON POST BUSHINGS.**
See figure 7. Installed bushings can be inspected for correct diameter. Wear plates must be installed before inspection.

Support Equipment Required

None

Materials Required

None

a. Insert subassembly B through frame (detail 11) and into pylon post hole of wing, view A.

b. Align plate (detail 168) to correct position as required, view B. For hole number location (A1-F18AC-SRM-210, WP003 03).

c. Install L-pin (detail 171) into frame (detail 11) to maintain alignment of plate (detail 168), view A.

d. Push hook (detail 24) against stop bolt (detail 173) to move hook to extended position, view A.

e. Inspect subassembly B for correct fit in pylon post pushing holes.

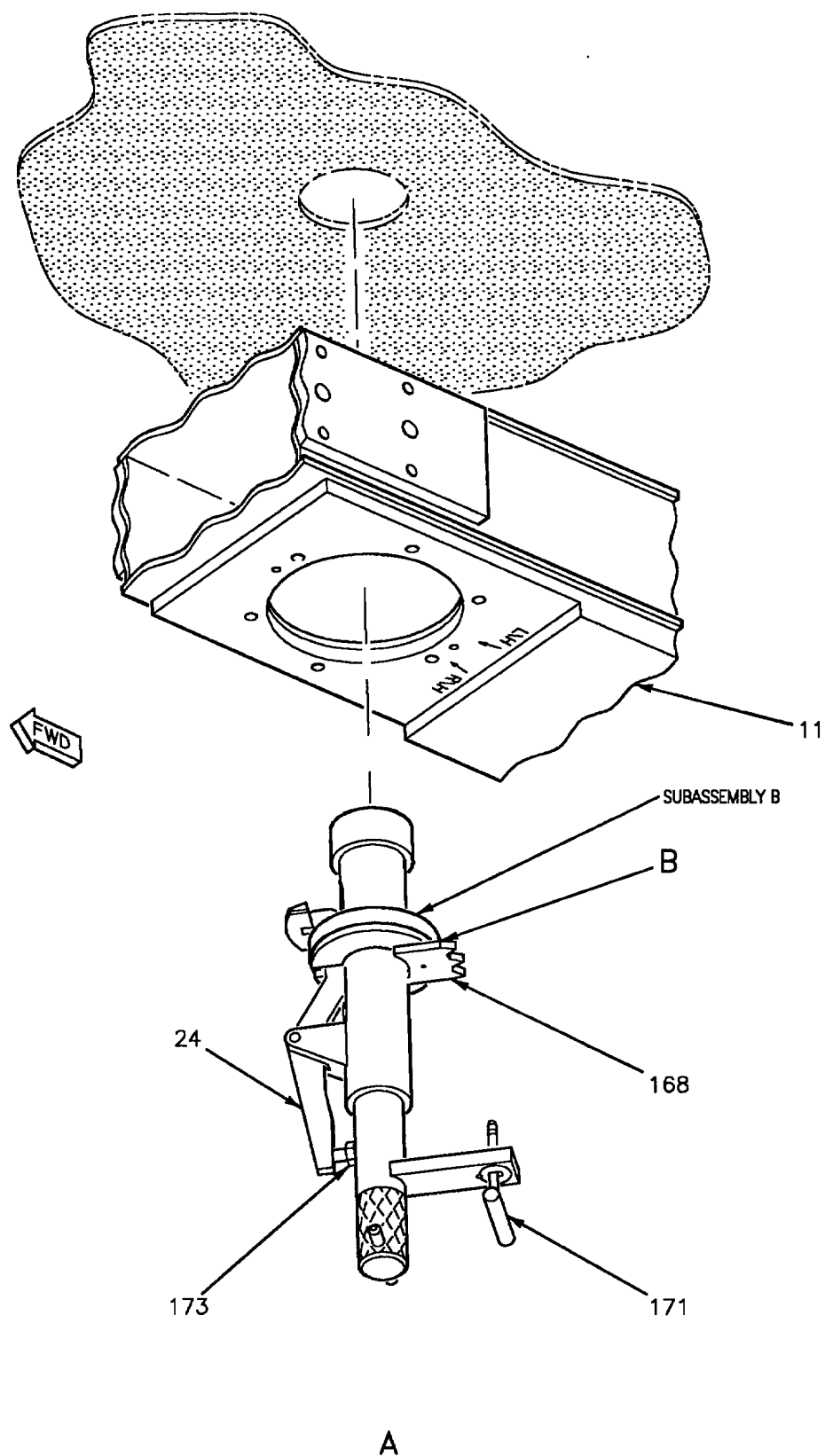


Figure 7. Inspection of Pylon Post Bushings (Sheet 1)

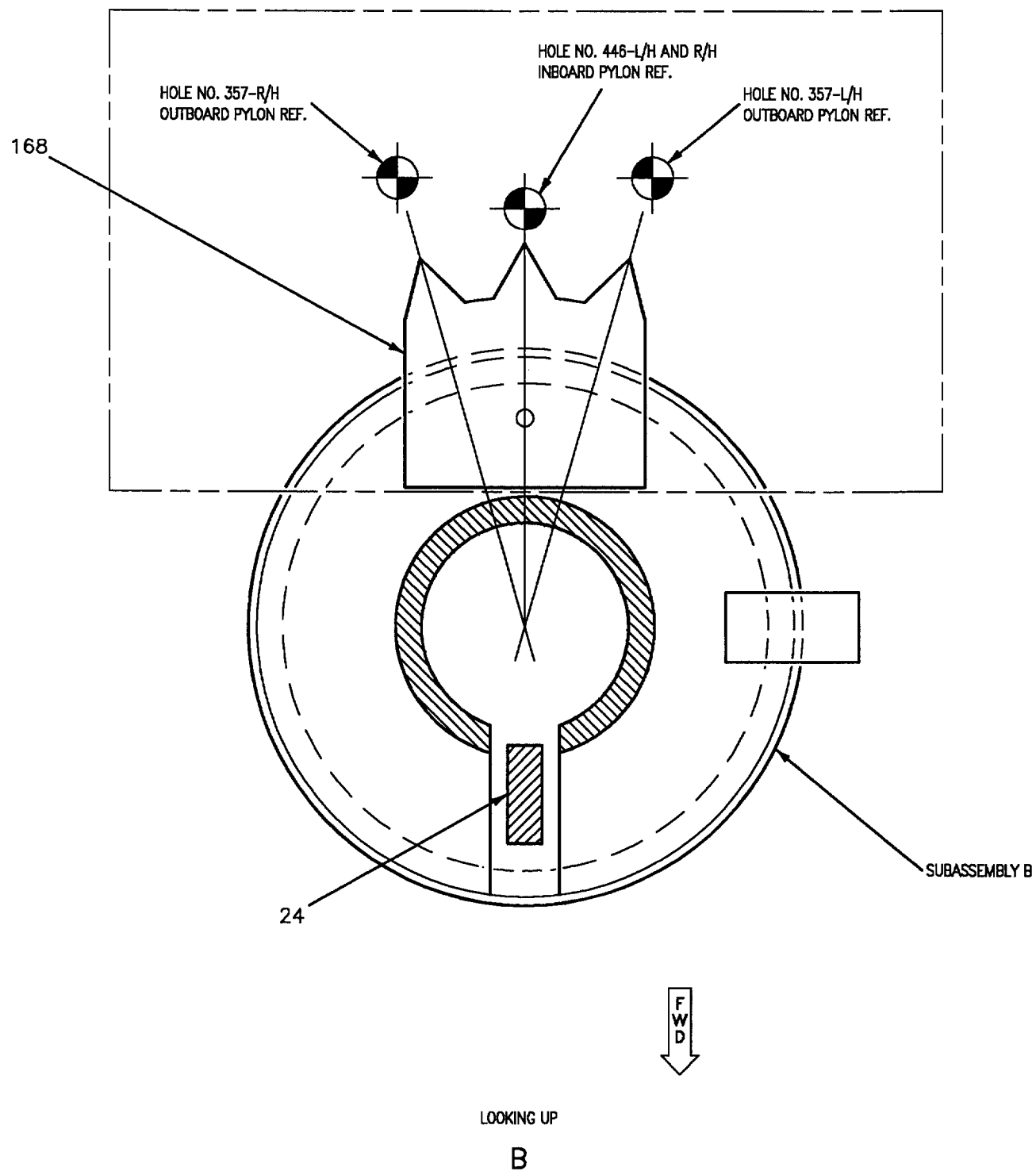


Figure 7. Inspection of Pylon Post Bushings (Sheet 2)

Detail No.	Name	Function
Subassembly B	Inspection Tool	Inspects inboard and outboard pylon post bushings for correct diameters and fit.
11	Frame	Main locator and support for all details and subassemblies.
24	Hook	Attaches subassembly B into pylon post hole similar to pylon hook.
168	Plate	Locates subassembly B for correct alignment with applicable pylon installation.
171	L-Pin	Secures subassembly B to frame.
173	Stop Bolt	Locates hook in correct position.

Figure 7. Inspection of Pylon Post Bushings (Sheet 3)

DEPOT MAINTENANCE

STRUCTURE REPAIR

DRILLING FIXTURE, RE574110004-1, -2

INNER WING

Reference Material

Structure Repair, Wing	A1-F18AC-SRM-210
Inner Wing Maintenance Fixture, RE174110004-1, -2, Loading Inner Wing	WP004 01
Line Maintenance Access Doors	A1-F18AC-LMM-010
Structure Illustrated Parts Breakdown-Wing	A1-F18AC-SRM-410
Wing, Aircraft, Installation of (Wing to Fuselage Attach Points)	FIG 003 00

Alphabetical Index

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Assembly of Frame and Subassembly A	2
Fixture Preparation Before Wing Installation	1
Forward Spar	24
Inner Closure Rib	23
Inner Wing Attach Lugs	22
Installation of Wing into Drilling Fixture	13
Wing Fold Rib	25

Record of Applicable Technical Directives

None

1. DESCRIPTION.

2. The inner wing drilling fixture (fixture) is used to locate and maintain the relation of various peripheral inner wing (wing) structure components with each other. The fixture has tooling holes at the forward, aft, and wing fold spars for rough positioning of the structure assembly. A set of three supports are located on the fixture that include air bearing pads for more accurate positioning. The fixture provides for use of support equipment required to do bushing hole boring, cold-working, reaming, bushing installation, and bushing reaming after installation. The fixture requires accurate leveling and verification with an alignment kit, before use, and should be gage recycled with the inner wing maintenance fixture alignment kit to verify fixture remains accurate.

3. FIXTURE PREPARATION BEFORE WING

INSTALLATION. See figure 1. Removable details shall be cleared from the fixture and adjustable details shall be retracted for wing installation and adjustment.

Support Equipment Required

None

Materials Required

None

- a. Make sure all scraps and foreign objects are removed from fixture and all mating surfaces are clean.
- b. Raise air pad housing (detail 76) to maximum up position by turning hand knob (detail 571), view A.

c. Swing hydraulic work supports (detail 374) to retracted position on upper subassembly A and pin in place using L-pin (detail 391), 3 places, view B.

d. Loosen hand knob (detail 621) and lower locator (detail 617) to retracted position, view C.

e. Remove spherical nuts (detail 542), jam nut (detail 543), and snubber bolt (detail 92) from support (detail 88), view D.

f. Retract locator (detail 58), if attached to subassembly A, by removing L-pin (detail 369) and rotating away from wing area, view E.

g. Retract locator (detail 53) by removing L-pin (detail 369) and rotating away from wing area, view F.

4. **ASSEMBLY OF FRAME AND SUBASSEMBLY A.** See figure 2. Install tracks using depot furnished shims and quick-set as required, or permanently attach to floor.

Support Equipment Required

None

Materials Required

Specification or Part Number	Nomenclature
-	Concrete, Quick-Set

NOTE

If shims are to be used between tracks and floor, be sure they are in place before optical alignment.

a. Locate tracks (detail 316) on floor in approximate position next to subassembly A, view B.

b. Optically align tracks (detail 316) to subassembly A per dimensions, view B.

c. Secure tracks (detail 316) in fixed position on floor using quick-set or permanent fasteners, view B.

d. Reinspect optical alignment of tracks (detail 316) before quick-set hardens, view B.

e. Remove construction balls from tracks (detail 316), and overseal construction ball holes and fastener holes in bottom of tracks (detail 316), view B.

NOTE

Make sure quick-set is completely hardened before loading frame onto tracks.

f. Attach hoist to frame (detail 11) and lift into place onto tracks (detail 316), per sheet 1.

g. Optically align frame (detail 11) for proper height by adjusting air pads, view A.

h. Attach external air source to air valve on frame (detail 11), per sheet 1. Activate air pads.

i. Install L-pin (detail 300) into locator (detail 299) at upper forward attach point of frame (detail 11) and subassembly A, view C. Frame (detail 11) can be moved on the air pads.

j. Install L-pin (detail 300) into locator (detail 302) at lower forward attach point of frame (detail 11) and subassembly A, view D.

k. Install L-pin (detail 300) into locator (detail 44) at lower aft attach point of frame (detail 11) and subassembly A, view E.




l. Install L-pin (detail 300) into locator (detail 45) at upper aft attach point of frame (detail 11) and subassembly A, view F.

m. Shut off air valve.

n. To retract frame (detail 11) away from subassembly A, turn on air valve to activate air pads, and remove L-pins (detail 300), 4 places, views C, D, E, and F.

o. Slide frame (detail 11) to retracted position.

p. Shut off air valve.



Concrete

31

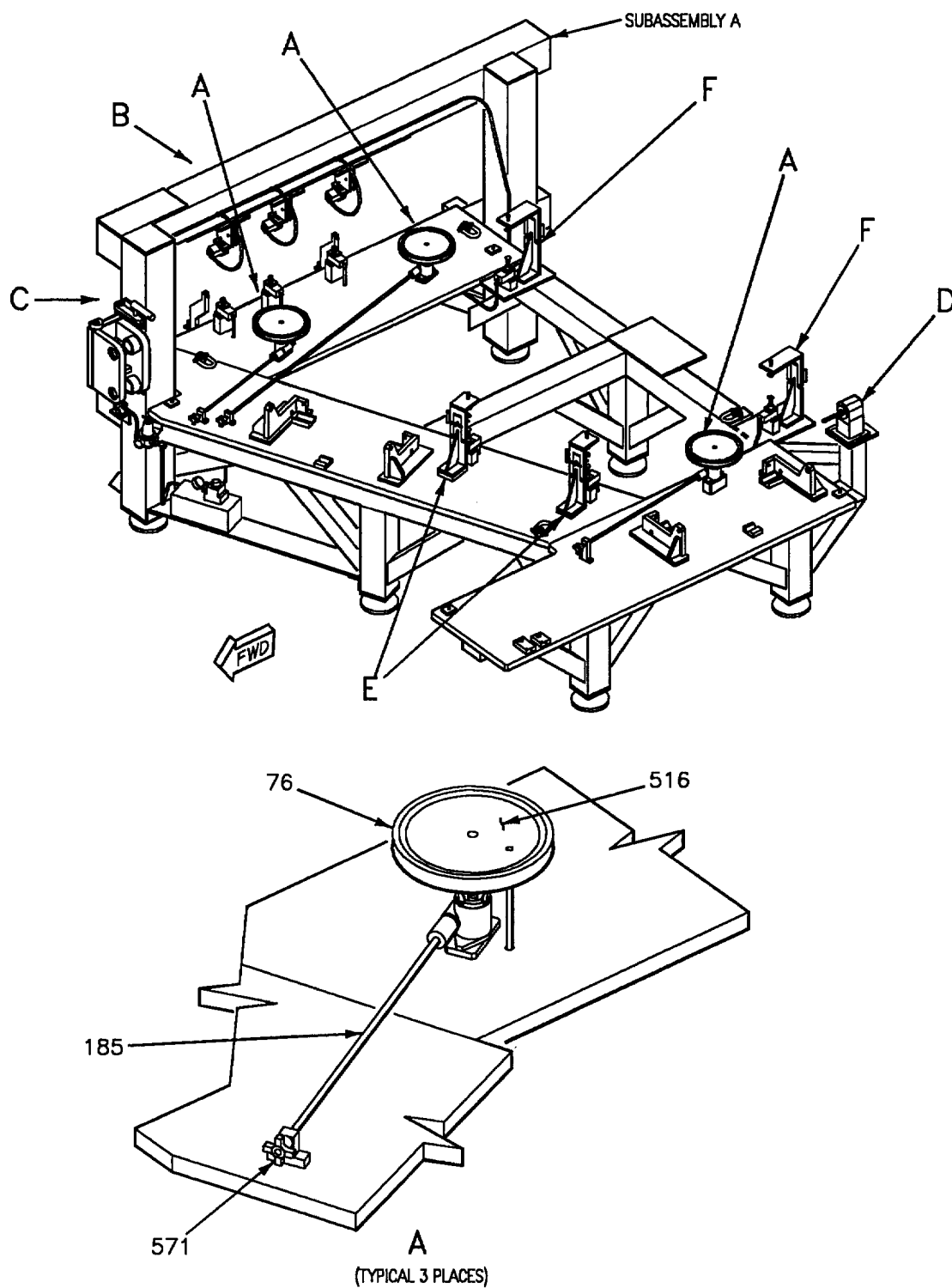


Figure 1. Drilling Fixture Preparation (Sheet 1)

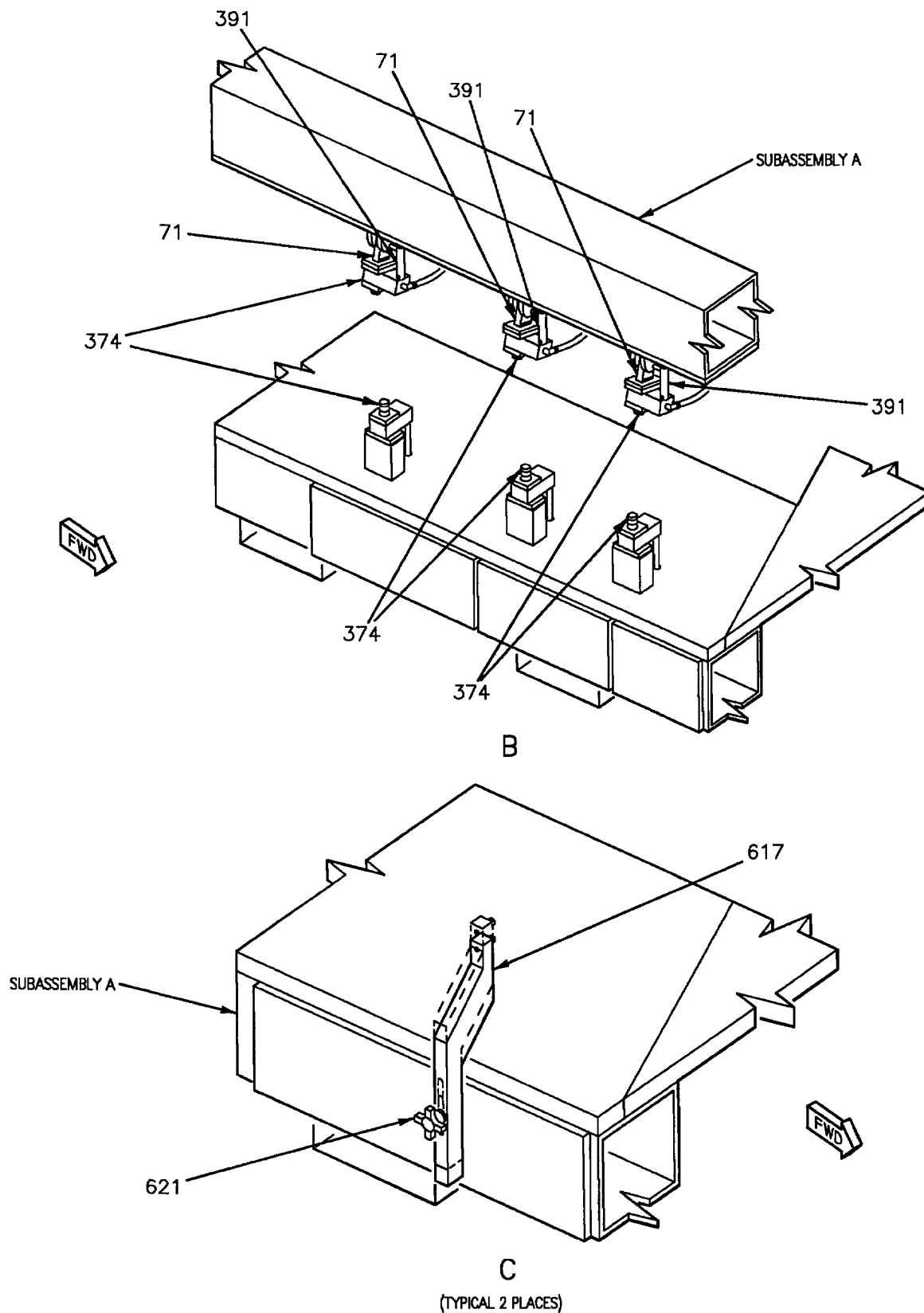


Figure 1. Drilling Fixture Preparation (Sheet 2)

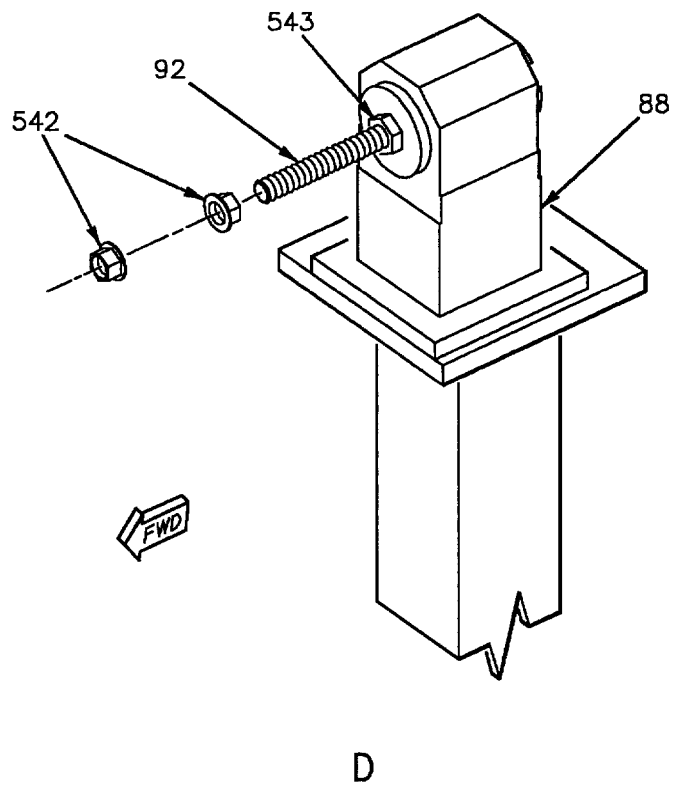
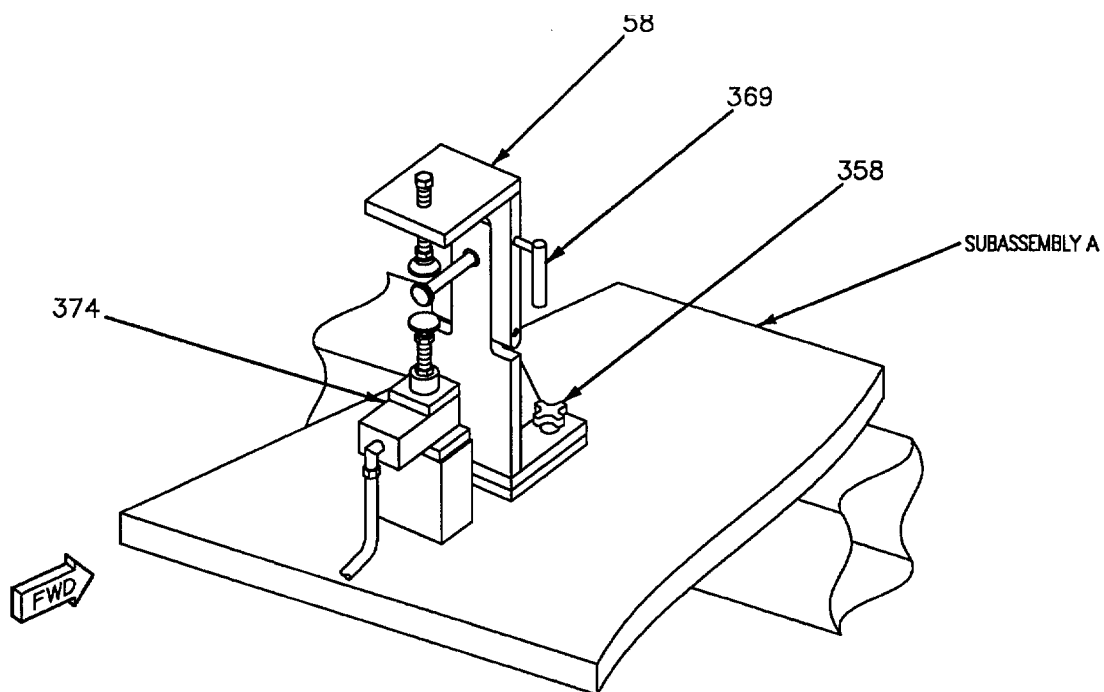
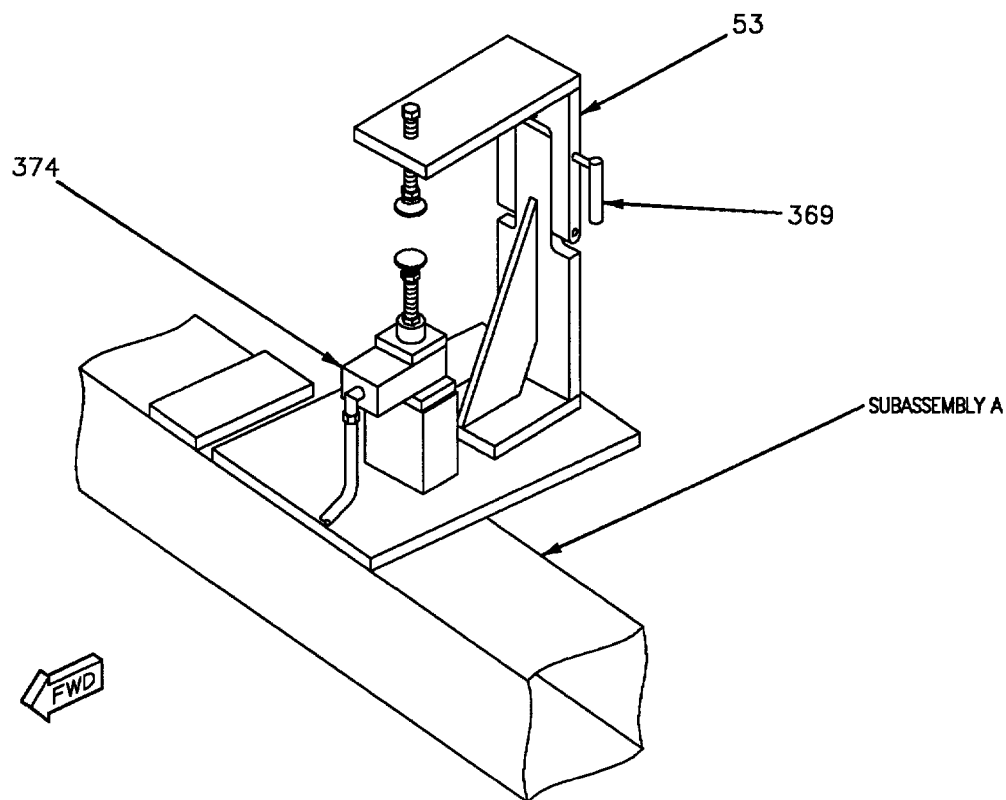


Figure 1. Drilling Fixture Preparation (Sheet 3)



E



F

Figure 1. Drilling Fixture Preparation (Sheet 4)

Detail No.	Name	Function
Subassembly A	Holding Fixture	Holds and secures wing for drilling operations.
53	Locator	Locates forward spar for rough positioning.
58	Locator	Locates trailing edge of wing for rough positioning.
71	Locator	Locates hydraulic work supports for upper inboard mold line.
76	Air Pad Housing	Contains and supports air pad.
88	Locator	Locates aft spar snubber.
92	Snubber Bolt	Attaches to aft spar lug.
185	Connecting Rod	Connects hand knob to support pad for adjustment.
358	Hand Knob	Secures detail 58 to subassembly A.
369	L-Pin	Locates detail 53 and 58 in place.
374	Hydraulic Work Support	Hydraulically secures wing in final for drilling.
391	L-Pin	Locates hydraulic work support in place or extended position.
516	Air Pad	Floats wing for adjustment in drill fixture.
542	Spherical Nut	Secures aft spar in place.
543	Jam Nut	Secures aft spar lug in place.
571	Hand Knob	Turns to adjust height of air pad support.
617	Locator	Adjustable detail that locates wing at inboard position.
621	Hand Knob	Secures detail 617 in place.

Figure 1. Drilling Fixture Preparation (Sheet 5)

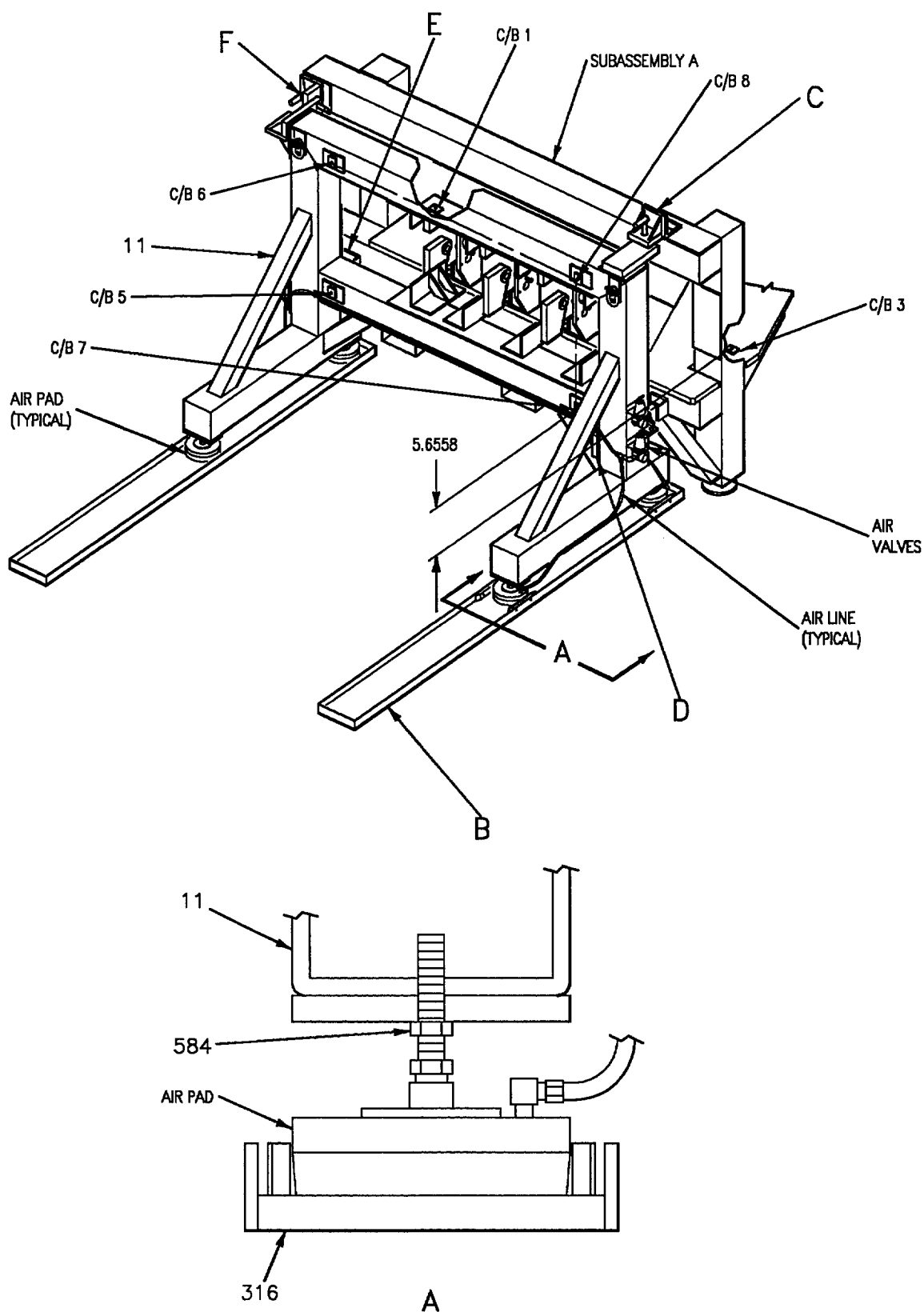


Figure 2. Assembly of Frame and Subassembly A (Sheet 1)

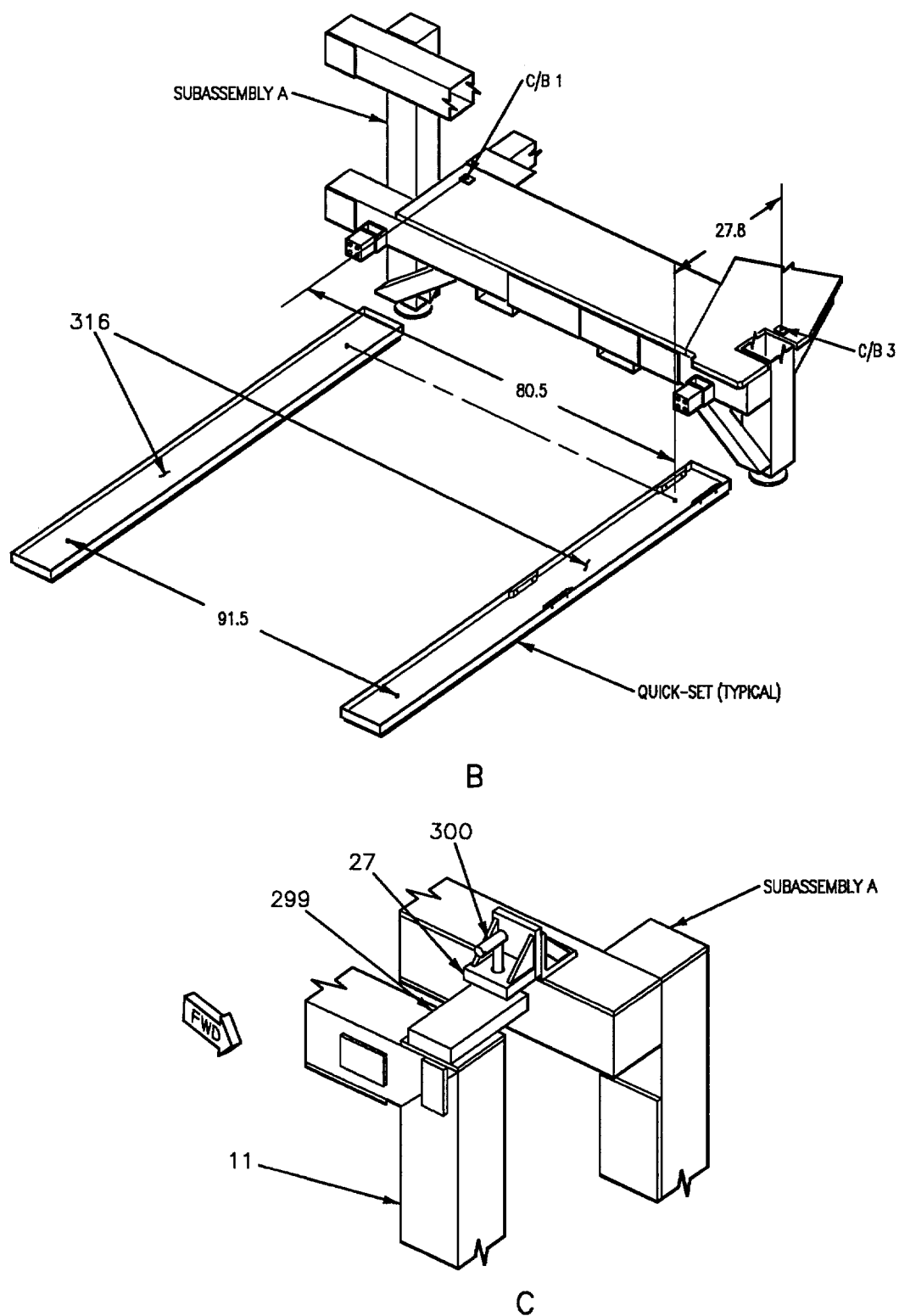
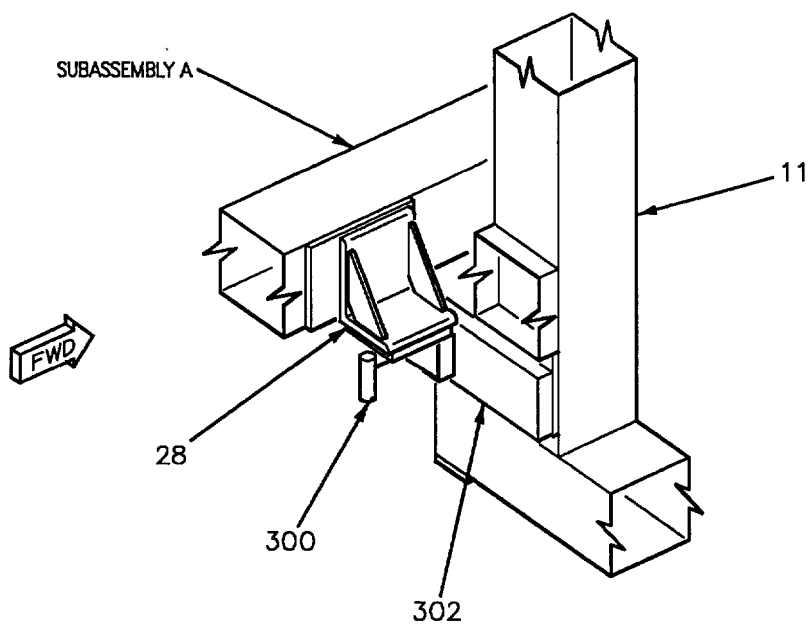
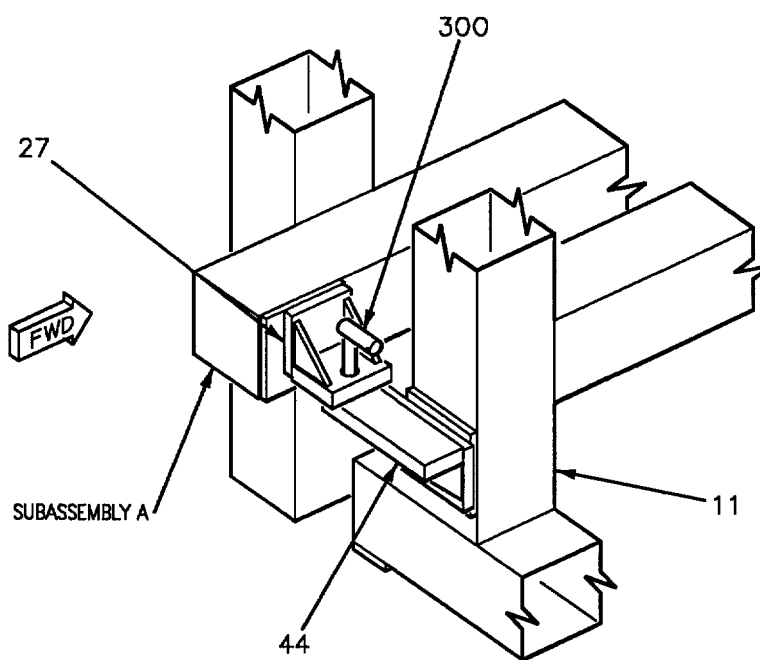


Figure 2. Assembly of Frame and Subassembly A (Sheet 2)



D



E

Figure 2. Assembly of Frame and Subassembly A (Sheet 3)

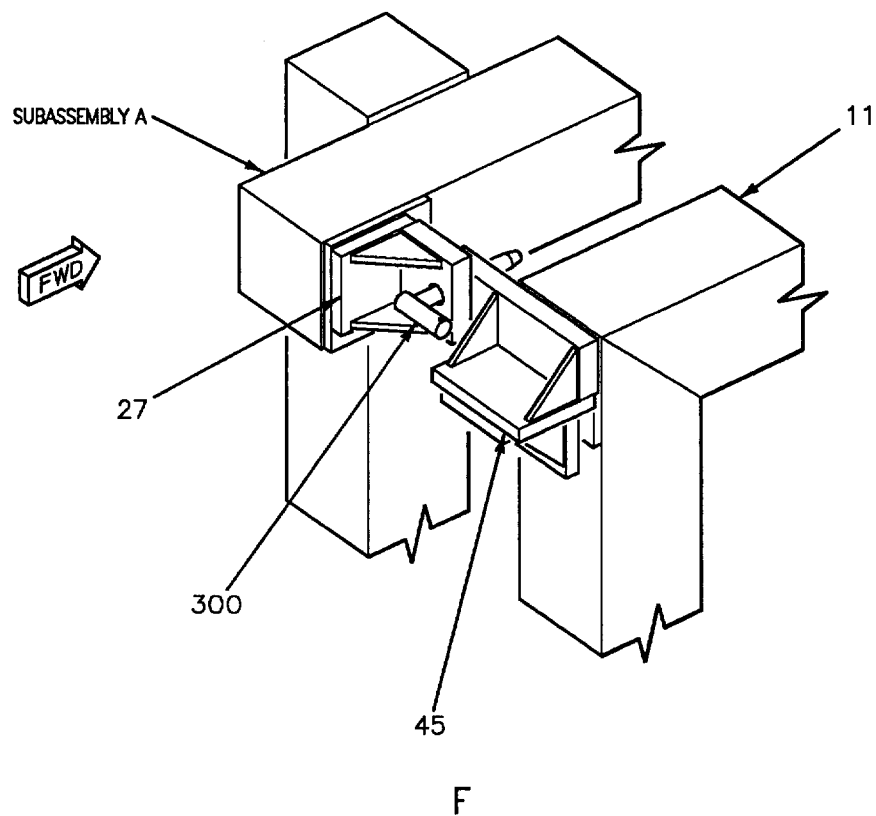


Figure 2. Assembly of Frame and Subassembly A (Sheet 4)

Detail No.	Name	Function
Subassembly A	Holding Fixture	Holds and secures wing for drilling operations.
11	Frame	Movable frame for alignment, pinning, and drilling wing attach lugs and bushings.
27	Locator	Locates and pins subassembly A to frame, upper forward position.
28	Locator	Locates and pins subassembly A to frame, lower forward position.
44	Locator	Locates and pins detail 11 to subassembly A, lower aft position.
45	Locator	Locates and pins detail 11 to subassembly A, upper aft position.
299	Locator	Locates and pins detail 11 to subassembly A, upper forward position.
300	L-Pin	Pins subassembly A to detail 11.
302	Locator	Locates and pins detail 11 to subassembly A, lower forward position.
316	Track	Track for detail 11 to travel on air pads, to align with wing lugs and/or subassembly A.
584	Jam Nut	Adjusts height of frame for alignment with subassembly A.

Figure 2. Drilling Fixture Preparation (Sheet 5)

5. INSTALLATION OF WING INTO DRILLING

FIXTURE. See figure 3. Removable details shall be cleared from the fixture and adjustable details shall be retracted for wing installation and adjustment.

Support Equipment Required

Part Number or Type Designation	Nomenclature
RE174110004, Subassembly K	Hoist, Inner Wing

Materials Required

None

a. Attach external air source to air valve on sub-assembly A.

b. Attach RE174110004, subassembly K, Inner Wing Hoist to inner wing structure assembly (A1-F18AC-SRM-210, WP004 01).

c. Hoist inner wing structure assembly and locate on air pad supports of fixture, view A. Remove hoist from wing after wing is resting on air pads.



Be extremely careful when air pads are activated to control wing movement and avoid damage to wing or drilling fixture.

Tooling hole pins shall not be inserted into holes during air pad support activation, or damage will occur to wing or fixture.

d. Turn on air valve on subassembly A, activating air support pads.

e. Position wing in approximate location for alignment with attach details, by sliding wing on air pads for forward/aft and inboard/outboard location; and by turning hand knobs (detail 571), 3 places, for up/down location. Leave wing positioned 1/4 to 1/2-inch above alignment with attaching details, view A.

f. Turn off air valve, allowing wing to lower into approximate alignment with attaching details.

g. Turn hand knobs (detail 571), 3 places, to adjust wing to exact alignment with attaching details, view A.

h. Install locator (detail 546) using L-pin (detail 359) and hand knobs (detail 358), view B. Make sure lower aft center lug is located between locator (detail 546) and strap clamp (detail 541), view B.

i. Tighten hex head bolt (detail 333) so that the forward surface of the lower aft center lug butts against locator (detail 546), view B.

j. Rotate locator (detail 53) into extended position, 2 places, and pin in place with L-pin (detail 369), view C.

k. Adjust air pad supports, as required, and insert pin (detail 368) into tooling holes in forward spar, 2 places, view C.

l. Install locator (detail 94) using hand knobs (detail 563), view D.

m. Adjust air pad supports, as required, and insert pin (detail 565) into tooling hole in wing fold rib, view D.

n. Rotate locator (detail 58) into extended position, 2 places, and pin in place using L-pin (detail 369), view E.

o. Secure wing in this rough location by tightening hex head cap screws (detail 370) to torque value indicated on locators (details 53 and 58), views C and E.

p. Rotate hydraulic work supports (detail 374) into extended position and pin in place using L-pin (detail 391), 3 places, view F.

q. Lock hydraulic work supports (detail 374) by turning foot one-eighth of a turn while holding cylinder stationary, both upper and lower supports, 3 places.

r. Lift locator (detail 617) into extended position and snug in place by tightening hand knob (detail 621), 2 places, view G.

s. Insert threaded rod (detail 92) through locator (detail 88) and aft spar lug, installing washer (detail 551), jam nut (detail 543), and spherical nuts (detail 542), view H.

t. Install locator (detail 57) on subassembly A using hand knob (detail 358), view J.

u. Insert pin (detail 368) into tooling hole in forward spar, view J.

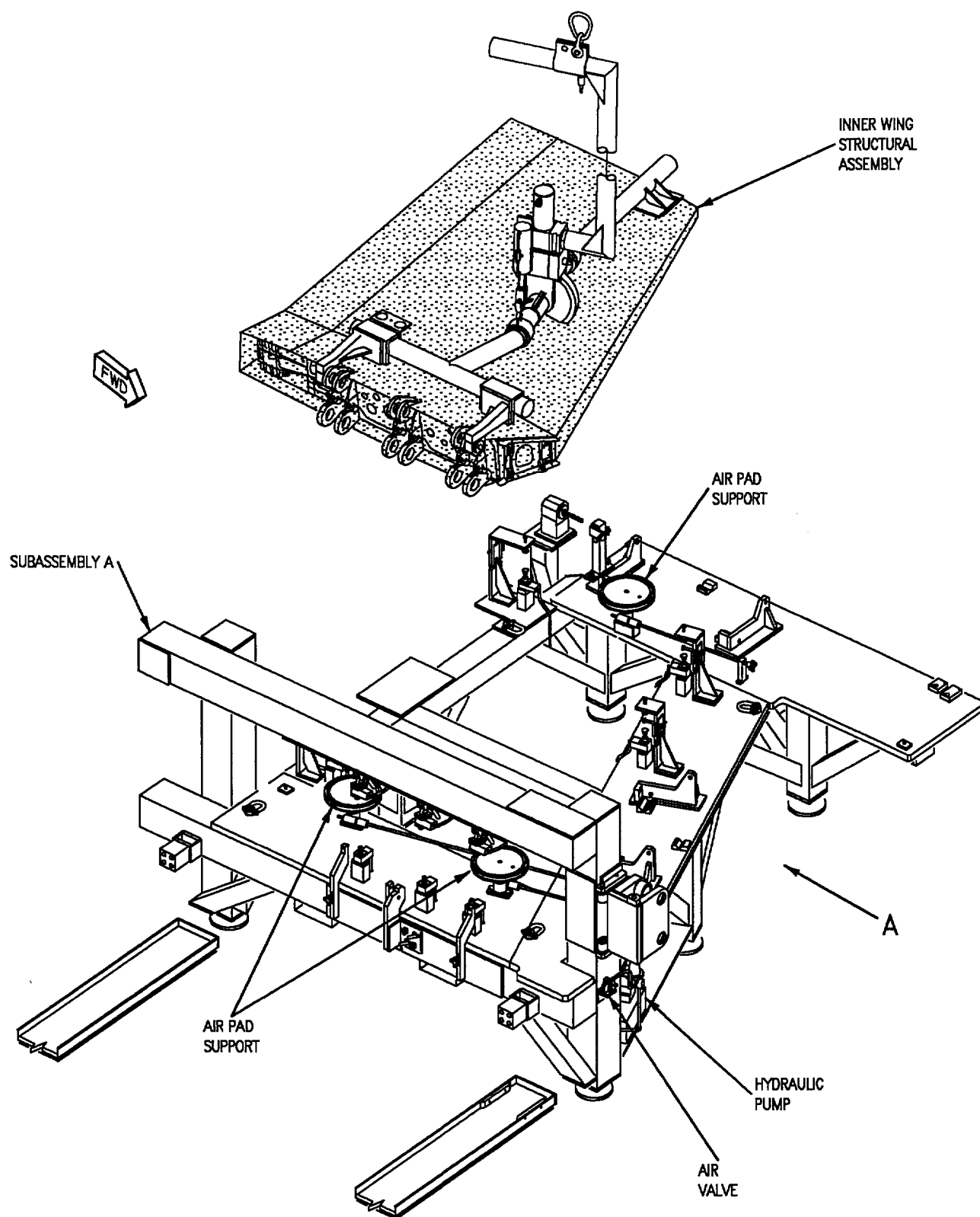


Figure 3. Installation of Wing (Sheet 1)

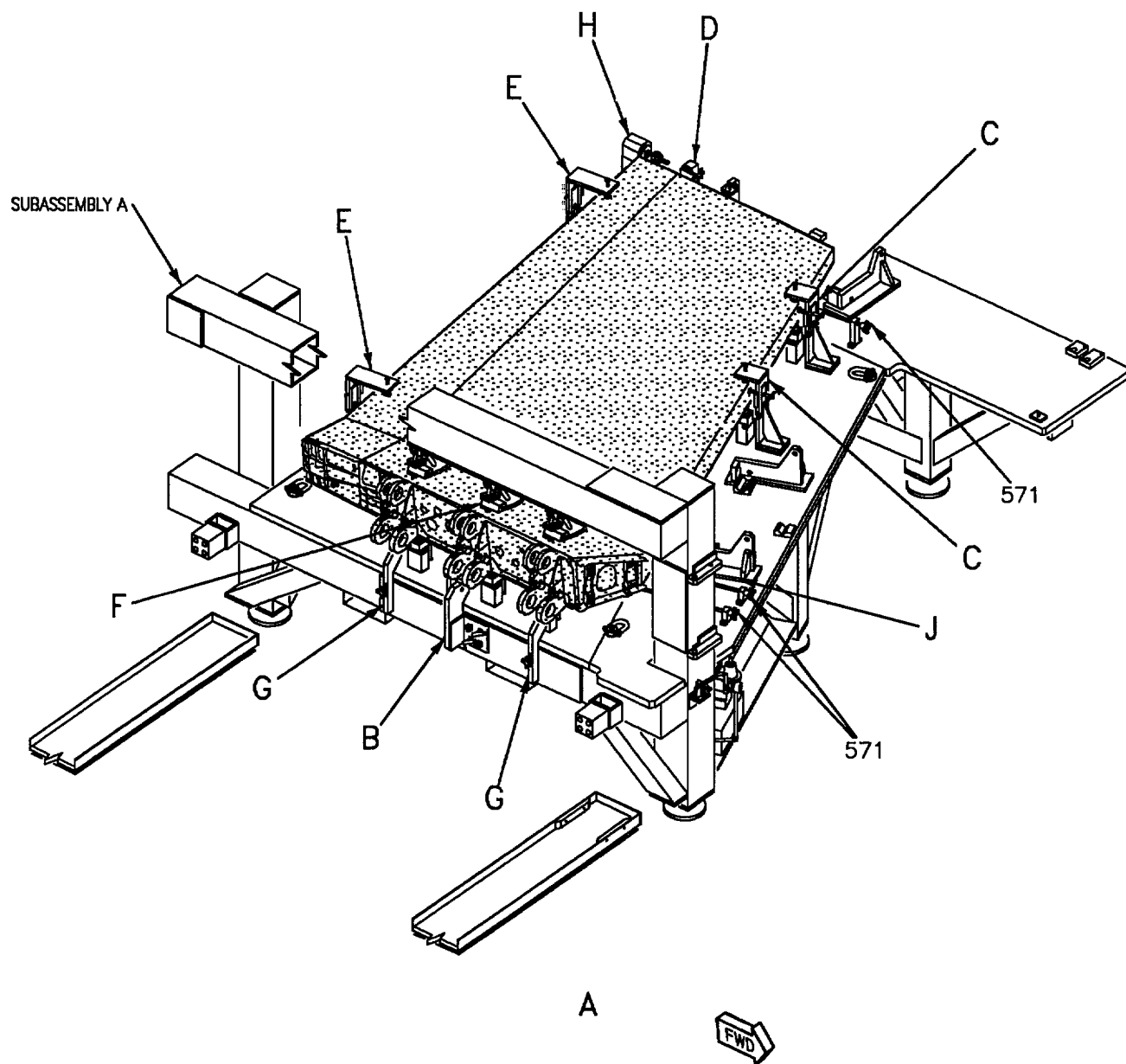


Figure 3. Installation of Wing (Sheet 2)

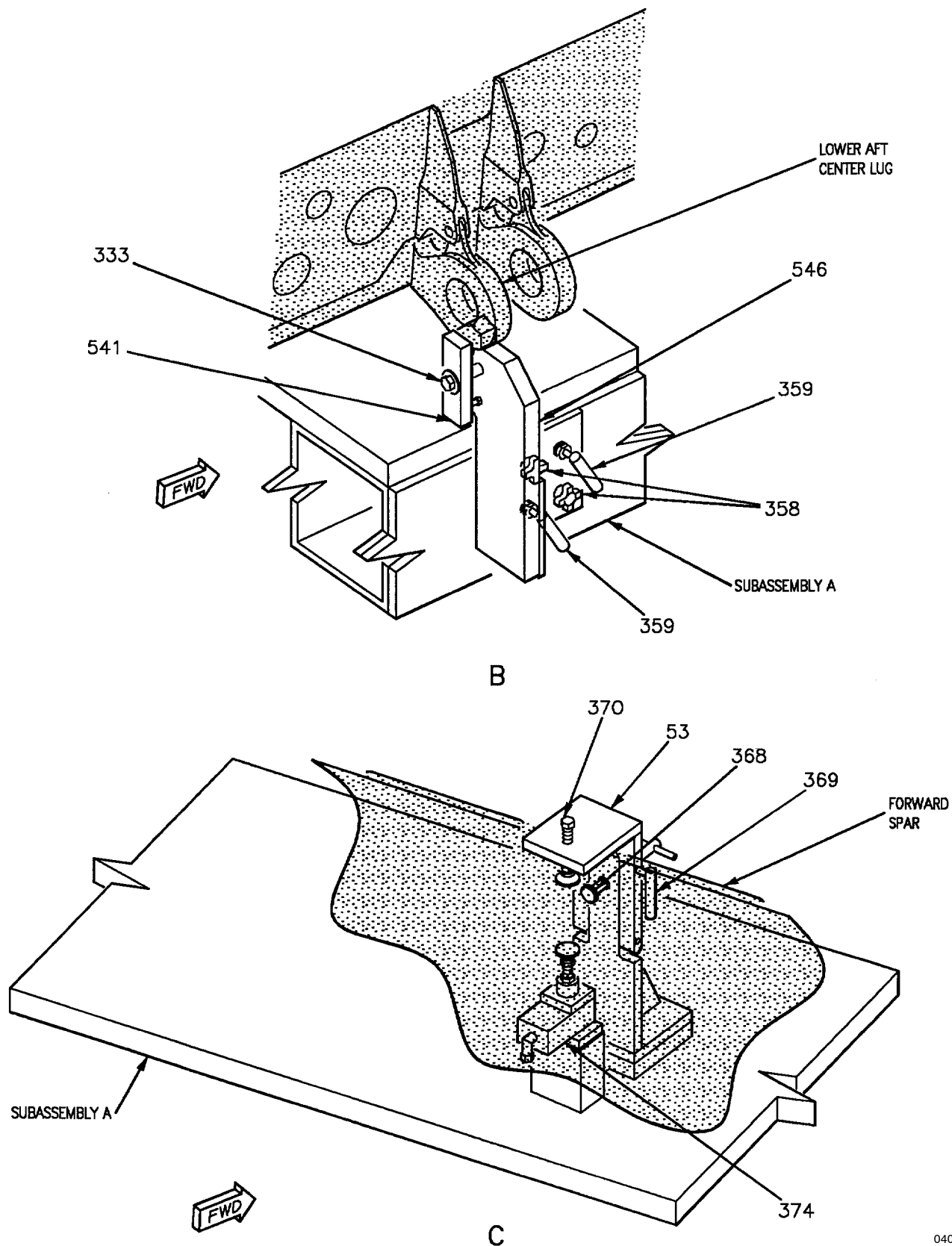


Figure 3. Installation of Wing (Sheet 3)

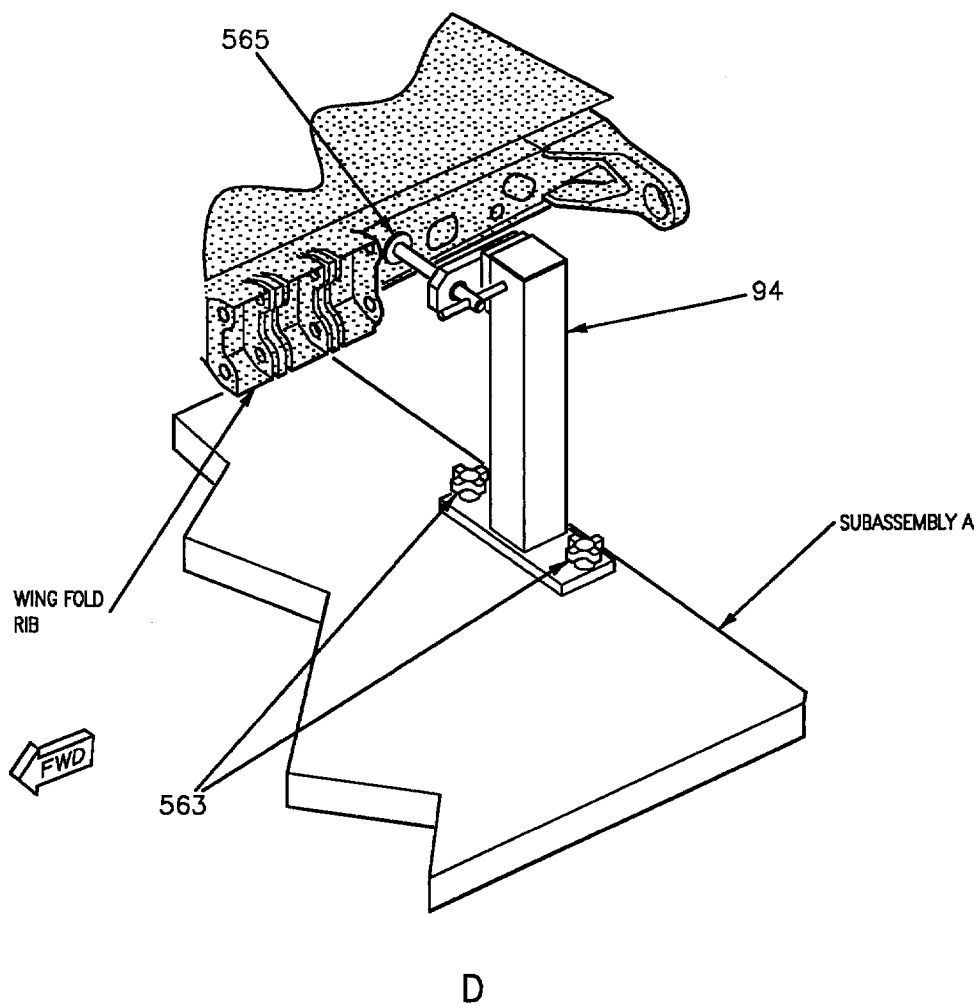
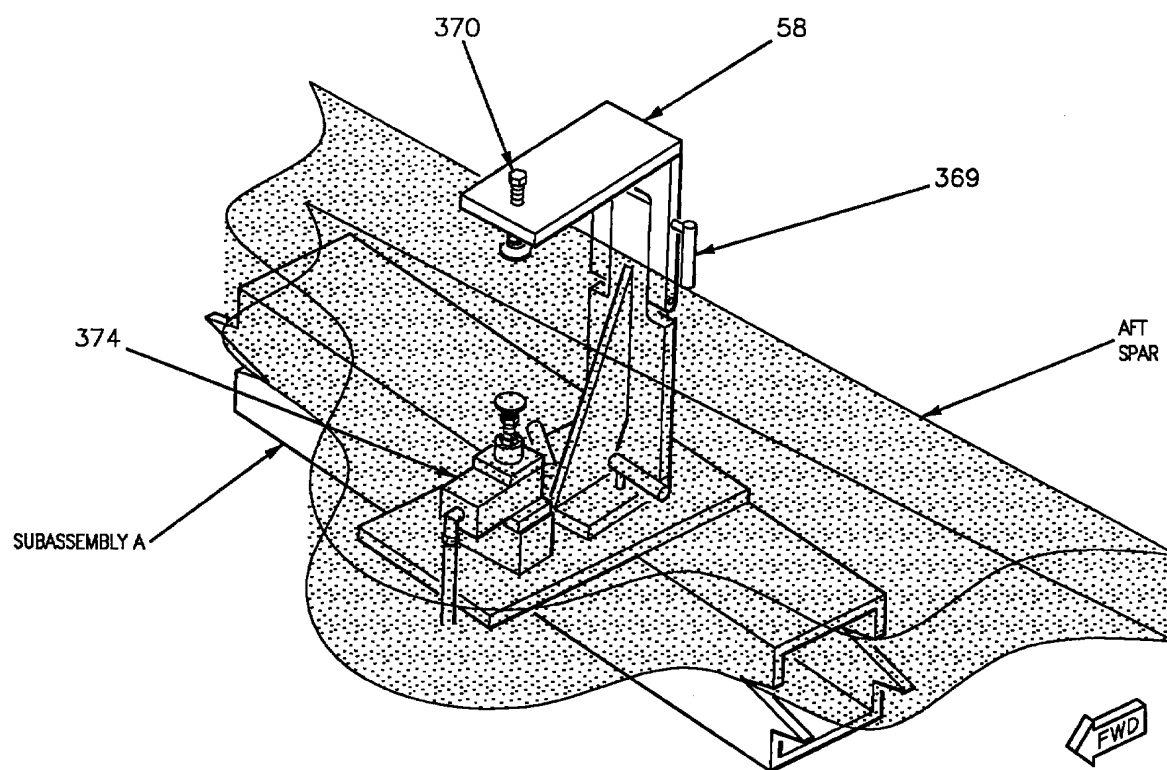
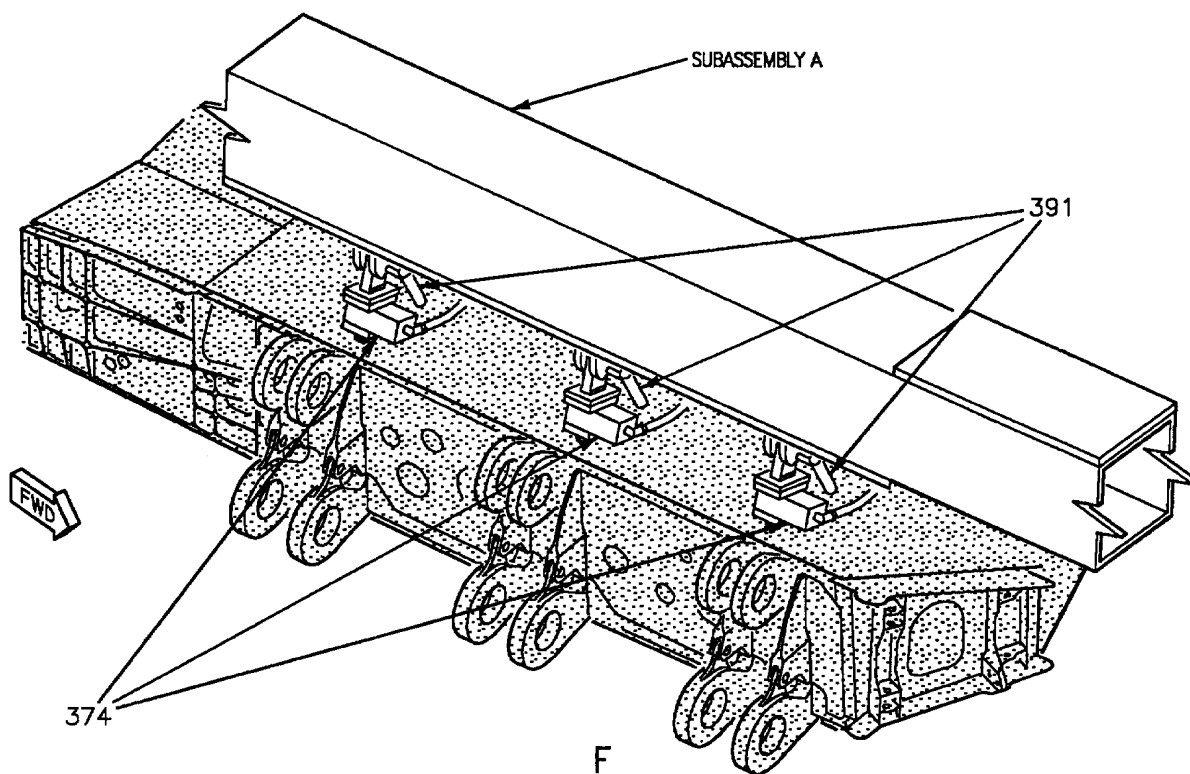


Figure 3. Installation of Wing (Sheet 4)



E



F

Figure 3. Installation of Wing (Sheet 5)

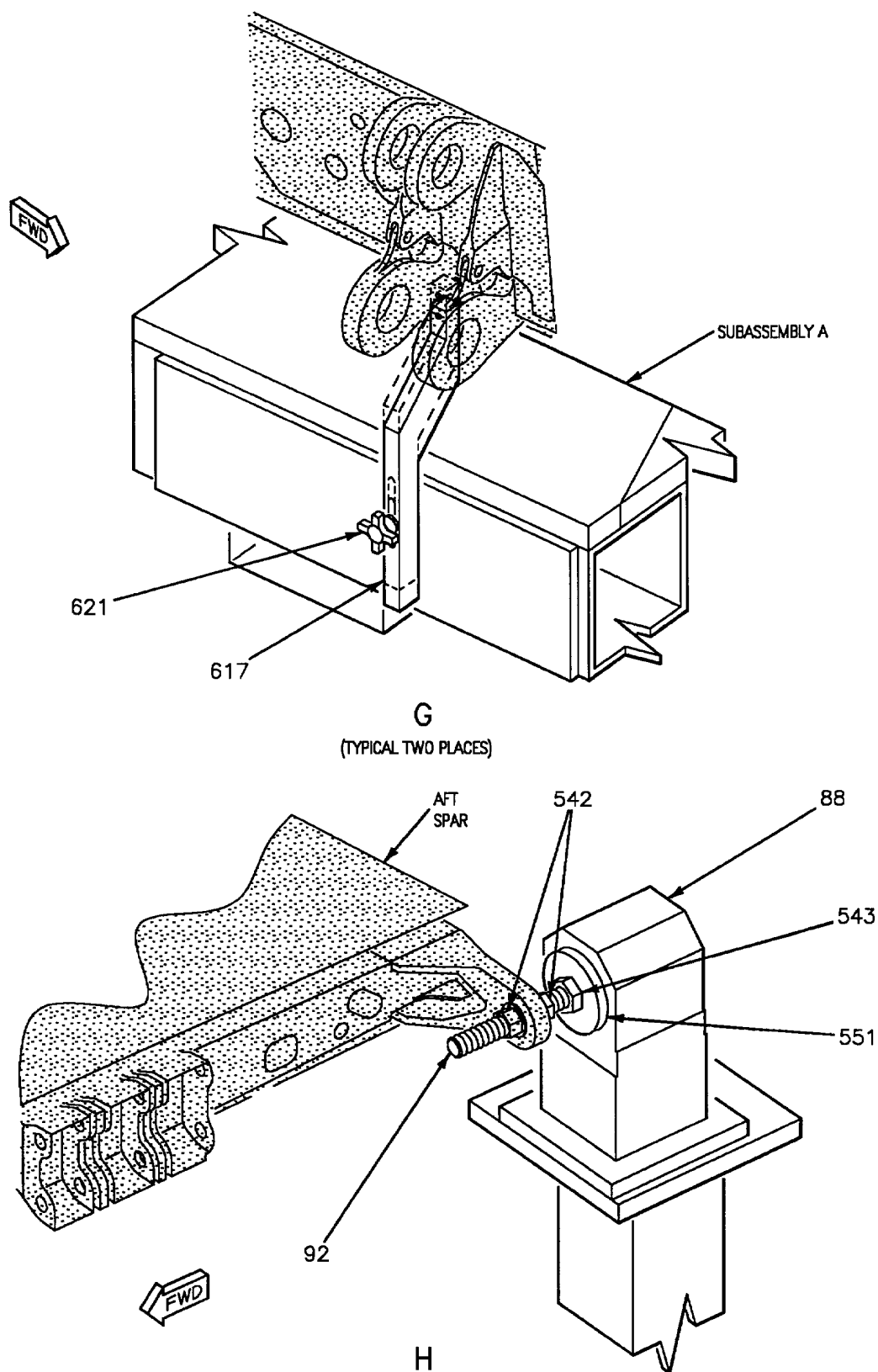


Figure 3. Installation of Wing (Sheet 6)

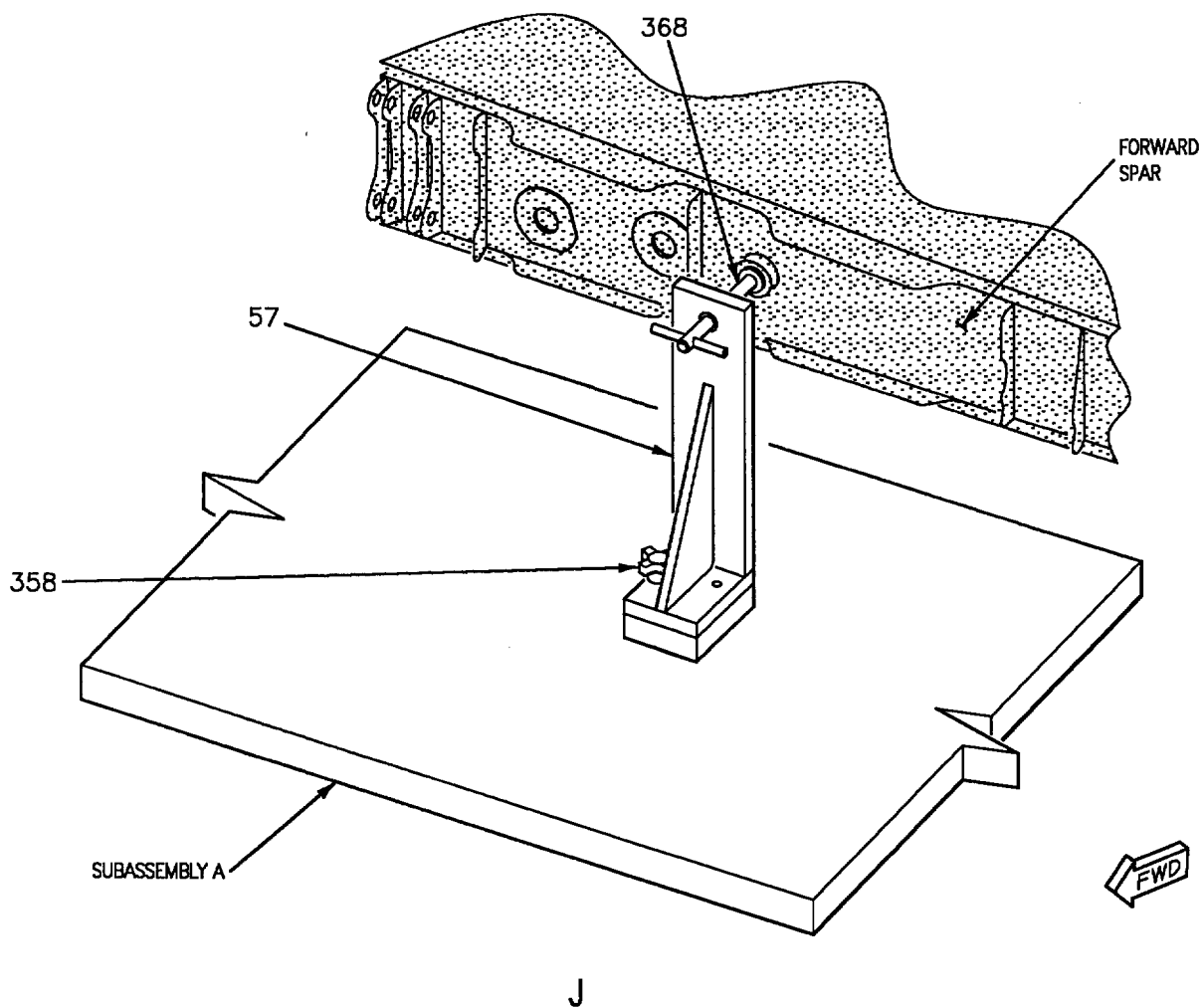


Figure 3. Installation of Wing (Sheet 7)

Detail No.	Name	Function
Subassembly A	Holding Fixture	Holds and secures wing for drilling operations.
53	Locator	Locates forward spar for rough positioning.
57	Locator	Locates forward spar.
58	Locator	Locates trailing edge of wing for rough positioning.
88	Locator	Locates aft spar lug in place.
92	Threaded Rod	Inserts through spar lug for location.
94	Locator	Locates wing fold rib for rough location.
333	Hex Head Bolt	Secures lower aft center wing attach lug for forward/aft location of wing.
358	Hand Knob	Secures detail 546 to subassembly A.
359	L-Pin	Locates and attaches detail 546 to subassembly A.
368	Pin	Inserts into tooling hole in forward spar for rough location.
369	L-Pin	Pins swing-away locators into extended position.
370	Hex Head Cap Screw	Clamps wing into fixture.
374	Hydraulic Work Support	Secures wing in place after it is located.
391	L-Pin	Locates hydraulic work support in position at upper and lower inboard wing.
541	Strap Clamp	Secures lower aft center wing lug against detail 546.
542	Spherical Nut	Secures aft spar lug in place.
543	Jam Nut	Secures threaded rod (detail 92) in locator (detail 88).
546	Locator	Locates wing for forward/aft position at lower aft center attach lug.
551	Washer	Installs on threaded rod (detail 92).
563	Hand Knob	Secures detail 94 to subassembly A.
565	Pin	Inserts into tooling hole in wing fold rib for rough location.
571	Hand Knob	Adjusts height of air pads.
617	Locator	Locates wing in inboard/outboard position at inner closure rib.
621	Hand Knob	Secures detail 617 in retracted or extended position.

Figure 3. Installation of Wing (Sheet 8)

6. **INNER WING ATTACH LUGS.** See figure 4. The wing must be installed in the drilling fixture, and frame and subassembly A must be coupled per procedures, this WP.

Support Equipment Required

Part Number or Type Designation	Nomenclature
RE774110004-1	Repair Kit, Inner Wing Bushing

Materials Required

None

7. Locating Wing.

a. Disengage all location pins from forward and aft spar, and wing fold rib tooling holes before adjusting location of wing.

b. Hoist wing fold rib locator (detail 56) into place on subassembly A and pin at pivot points using T-pins (detail 169) at both ends of locator (detail 56), view D.

c. Install bushings (details 588, 606, or 613), as applicable, into lower forward and aft wing lugs, view A.

d. Install pins (detail 589) at lower forward and aft lug locations by adjusting wing, using hand knobs (detail 571), 3 places, until pins (detail 589) will insert, view A.

e. Maintain position of lower aft center wing lug clamp next to locator (detail 546), view F.

f. Install support (detail 80) on subassembly A using L-pins (detail 359) and hand knobs (detail 358), view B.

NOTE

Shear tie bearing and mating hardware shall be removed for installation of locator (detail 82). For parts information (A1-F18AC-SRM-410, FIG 003 00).

g. Set one dial indicator (detail 411) to four inches using indicator setting block (detail 723), and set other dial indicators (details 411 and 717) to three

inches using indicator setting block (detail 722), view C.

h. Turn wheel (detail 795) to move locator (detail 56) to align holes in bushing locators (details 83 thru 87) with holes in wing fold rib, views D and E.

NOTE

Be sure lower aft center lug remains secure against locator (detail 546).

i. Insert bushings (details 796 thru 799) into matching bushing locators (details 83 thru 87), view E.

j. Install pin (detail 793) through upper and lower lugs to maintain alignment of wing, view D.

k. Install hydraulic work supports (detail 347), inner closure rib locators (detail 617), and aft spar threaded rod (detail 92)

l. Rotate hydraulic work supports (detail 374) into extended position and pin in place using L-pin (detail 391), 3 places, view L.

m. Lock hydraulic work supports (detail 374) by turning foot one-eighth of a turn while holding cylinder stationary, both upper and lower supports, 3 places.

n. Lift locator (detail 617) into extended position and snug in place by tightening hand knob (detail 621), 2 places, view M.

o. Insert threaded rod (detail 92) through locator (detail 88) and aft spar lug, installing washer (detail 551), jam nut (detail 543), and spherical nuts (detail 542), view N.

p. Adjust wing for up/down position, using out-board jack support, so that dial indicator (detail 411) indicates ± 0.010 . If tolerance cannot be reached, go to step r.

q. Insert locator (detail 82) into aft shear tie cut-out, view B.

r. Inspect for a nominal gap of 0.2115 inches at upper and lower edges of locator (detail 82), view B. Locator (detail 82) indicates a go condition only.

s. If tolerance was not reached, remove pins (detail 589) and bushings (details 588, 606, or 613) from wing lugs, view A.

t. Install check bushing (detail A2), 4 places, at upper and lower, and forward and aft lugs using hand knobs (detail 599), view F.

u. Install check bushings (detail A1), 2 places, at upper and lower, center lugs using hand knobs (detail 599), view F.

v. Install bushings (details 588 or 606) in the lower lugs and bushings (details 607 and 608) in the upper lugs, view F.

w. Install pins (detail 603) in lower lugs, and pins (detail 602) in upper lugs, view F.

x. Adjust wing for up/down position, using jack supports, so that dial indicators (detail 411) indicates ± 0.010 for up/down location, view E.

y. Insert dial indicators (detail 411) into indicator sleeves (detail 312) to aid in locating inboard end of wing, view F.

z. Insert pins (details 602 and 603) into check bushings (details A1 and A2), as applicable, view F. Pins (details 602 and 603) indicate a go condition only.

aa. If ± 0.010 tolerance cannot be reached at wing lugs, adjust wing using jack supports so that wing fold rib can be set to best condition (with forward end of rib held to ± 0.010) using dial indicator (detail 411), view D.

8. Inspecting Attach Lug Spacing for Inter-changeability with Fuselage.

a. Install pins (detail 589) through locators (detail 295), and upper and lower attach lugs, engaging bushings (detail 294), view K.

b. Remove locator (detail 546) by removing hand knobs (detail 358) and L-pins (detail 359), view F.

c. Place lug spacing tool (detail 204) on lower pin (detail 589) between center set of lugs, view K.

d. Rotate lug spacing tool (detail 204) up to upper pin (detail 589) between upper lugs, view K.

e. If lug spacing tool (detail 204) locates completely between upper lugs, then spacing is good.

f. If wing is not in drilling fixture, install bushings (detail 613 and 614) into lugs and insert pin (detail 589) through bushings and lugs, view K.

g. Repeat steps c, d, and e.

9. Boring and Reaming Wing Attach Lugs.

Make sure wing is located and air pad supports are secured, to avoid accidental movement of wing during drilling operations.

a. Remove all removal details in the area of the wing attach lugs.

b. Install locator board (detail 37), 3 places, on subassembly A using hand knobs (detail 297), view G.

c. Install subassembly F between upper lugs, and subassembly G between lower lugs, view H.

d. Swing drill guide (detail 29) from retracted position to extended, and pin in place using L-pin (detail 728), view J.

e. Bore and ream attach lugs using details of the RE774110004 Inner Wing Bushing Repair Kit.

10. INNER CLOSURE RIB. See figure 5. Wing must be installed per Installation of Wing into Drilling Fixture, this WP.

Support Equipment Required

None

Materials Required

None

a. Retract frame away from subassembly A per Assembly of Frame and Subassembly A, steps n, o, and p, this WP.

NOTE

Pins insert in an aft to forward direction.

b. Insert attach pins (details 268, 270, 271, and 275) for pilot size lug inside diameter, or attach pins (details 624, 625, 626, and 627) for bushing inside diameter, into forward and aft attach lugs, view A.

c. Place locator blocks (details 272 and 273) on forward end of pins (details 268, 270, 271, and 275) or pins (details 624, 625, 626, and 627), view A.

d. Secure attach pins with hand knobs (detail 258), 4 places, view A.

e. Hoist subassembly E into place on attach pins, view B.

f. Secure subassembly E in place using threaded rod (detail 259) and hand knob (detail 260), hex nut (detail 263), and bar clamp (detail 274), 2 places, view C.

g. For nominal location of subassembly E, install hand knob (detail 276), 2 places, and hand knobs (detail 277 and 278) on subassembly E, view C.

(1) Tighten hand knobs (detail 276, 277, and 278) to secure subassembly E to attach pins.

(2) Secure subassembly E at lower lugs using toggle clamp (detail 736), hex head screw (detail 833), and hex nut (detail 263), view C.

11. **FORWARD SPAR.** See figure 6. Wing must be installed per Installation of Wing into Drilling Fixture, this WP.

Support Equipment Required

None

Materials Required

None

12. Locating Forward Spar.

a. Do Fixture Preparation Before Wing Installation, this WP.

b. Retract frame (detail 11) away from subassembly A by turning on air valve to activate air pads, remove L-pins (detail 300), 4 places, and slide frame (detail 11) to retracted position.

c. Do Installation of Wing into Drilling Fixture, this WP.

d. Install check locator (detail A4) onto support stand (detail 65) using L-pins (detail 359) and hand knob (detail 358), view A.

e. Install locator (detail 89) on subassembly A using L-pins (detail 359) and hand knobs (detail 358), view C.

f. Retract tooling hole locators from forward spar, 2 places, and fold rib.

g. Install check locator (detail 89) onto subassembly A using L-pins (detail 359) and hand knobs (detail 359), view C.

h. Install check locator (detail 64) onto subassembly A using L-pins (detail 130) and hand knobs (detail 131), view D.

i. Locate wing in correct inboard/outboard position by adjusting wing so that adjustment pin (detail 128) is inserted between the inboard lugs, view D.

j. Install bushing (detail 520) in locator (detail 89), 2 places, view C.

k. Insert pin (detail 348) through bushing (detail 520) and into pilot hole in outboard idler lug, view C.

l. Install upper bushings (detail 637 and 659) and lower bushings (detail 648 and 669) in check locator (detail A4), views A and B.

m. Insert pin (detail 697) through bushings (detail 637, 648, 659, and 669), 2 places, view B.

n. Adjust wing so that pins (detail 348 and 697) can be rotated, views B and C. Loose pins indicate that the wing is not deflected in the fixture.

o. Set two dial indicators (detail 411) and one dial indicator (detail 717) using indicator setting block (details 722 and 723), view E. Set one dial indicator (detail 411) to four inches using indicator setting block (detail 723), and the other dial indicators (details 411 and 717) to three inches using indicator setting block (detail 722).

p. Inspect edge distance for outboard idler lug using dial indicators (detail 411) installed in check locator (detail 89), 2 places, view C.

q. Inspect edge distance for inboard idler lug using dial indicators (detail 411) installed in locator (detail A4), 2 places, view A.

r. Inspect edge distance for transmission lugs using dial indicators (detail 411 and 717) installed in locators (detail 123 and 124), view D. Dial indicator (detail 717) is for lower surface edge distance only.

s. If dial indicator readings are not within ± 0.010 inch tolerance:

(1) Loosen wing in fixture.

(2) Remove pins (detail 348 and 697), views B and C.

(3) Adjust wing to get dial indicator readings within ± 0.010 inch tolerance.

C. (4) Install pins (detail 348 and 697), views B and

(5) Secure wing in fixture.

13. **WING FOLD RIB.** See figure 7.

Support Equipment Required

None

Materials Required

None

a. Do Fixture Preparation Before Wing Installation, this WP.

b. Do Installation of Wing into Drilling Fixture, this WP.

c. Lower wing fold rib locator (detail 56) onto subassembly A, using hoist ring (detail 445), views A and B.

d. Install pins (detail 169) at wing fold rib locator (detail 56) lower pivot points, 2 places, view A.

e. Turn hand wheel (detail 795) to adjust wing fold rib locator (detail 56) to align with lugs of wing fold transmission, view A.

f. Retract tooling hole locators from forward spar, 2 places, and wing fold rib.

NOTE

Maintain location of lower aft center wing attach lug as installed during Installation of Wing into Drilling Fixture, this WP.

g. Lift locator (detail 617) into extended position and snug in place by tightening hand knob (detail 621), 2 places, view C.

h. Insert threaded rod (detail 92) through locator (detail 88) and aft spar lug, installing washer (detail 551), jam nut (detail 543), and spherical nuts (detail 542), view D.

i. Install support (detail 395) on cradle (detail 72), view E.

j. Pin support (detail 395) into upper or lower position using L-pins (detail 391), view E.

14. **AFT SPAR SHEAR TIE.** See figure 8.

Support Equipment Required

None

Materials Required

None

a. Locate wing fold rib per Wing Fold Rib, this WP.

b. Remove all details installed through aft spar lug.

15. **Drilling or Reaming.**

a. Install locator (detail 91) on locator (detail 88) using hand knob (detail 556), view A.

b. Tighten thumb screws (detail 557), 2 places, to clamp spar in place, view A.

c. Tighten knurled nut (detail 558) to secure thumb screws (detail 557), view A.

d. Drill or ream aft spar shear tie.

16. **Countersink and Spot-face.**

NOTE

Drill and ream procedures must be completed before proceeding.

a. Remove locator (detail 91) by removing hand knob (detail 556), view A.

b. Install locator (detail 93) on locator (detail 88) using hand knob (detail 561), view B.

c. Tighten hand knob (detail 562) to secure swivel foot (detail 560) against aft spar lug, view B.

d. Tighten knurled nut (detail 559) to secure hand knob (detail 562) in place, view B.

e. Countersink and spot-face aft spar lug.

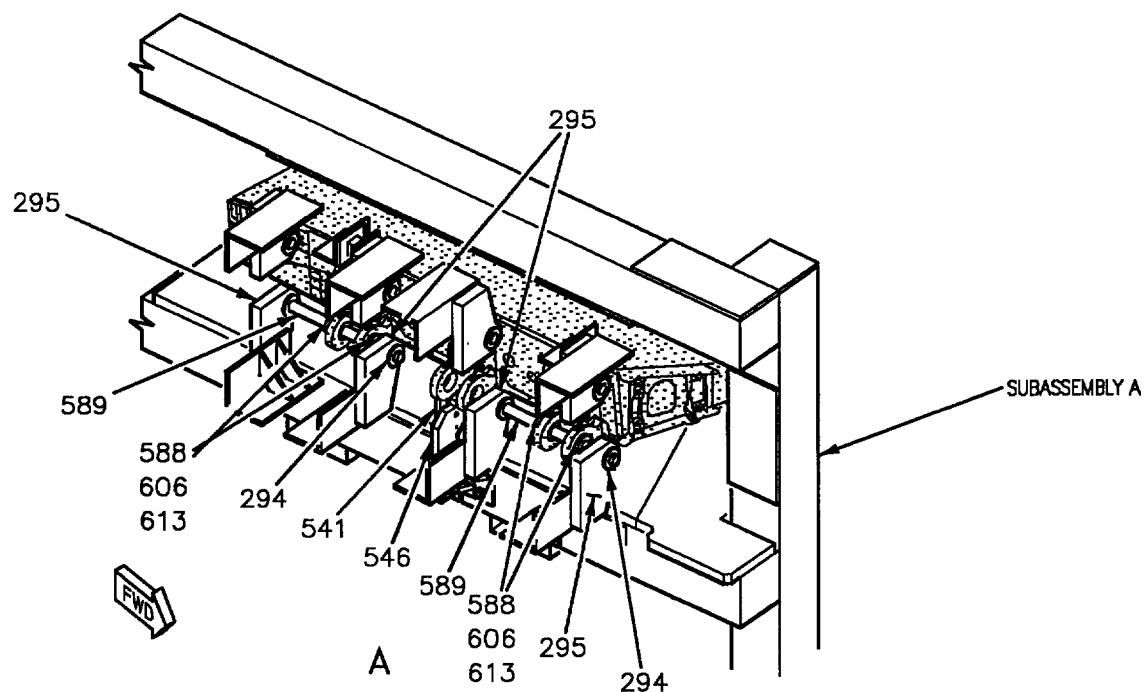
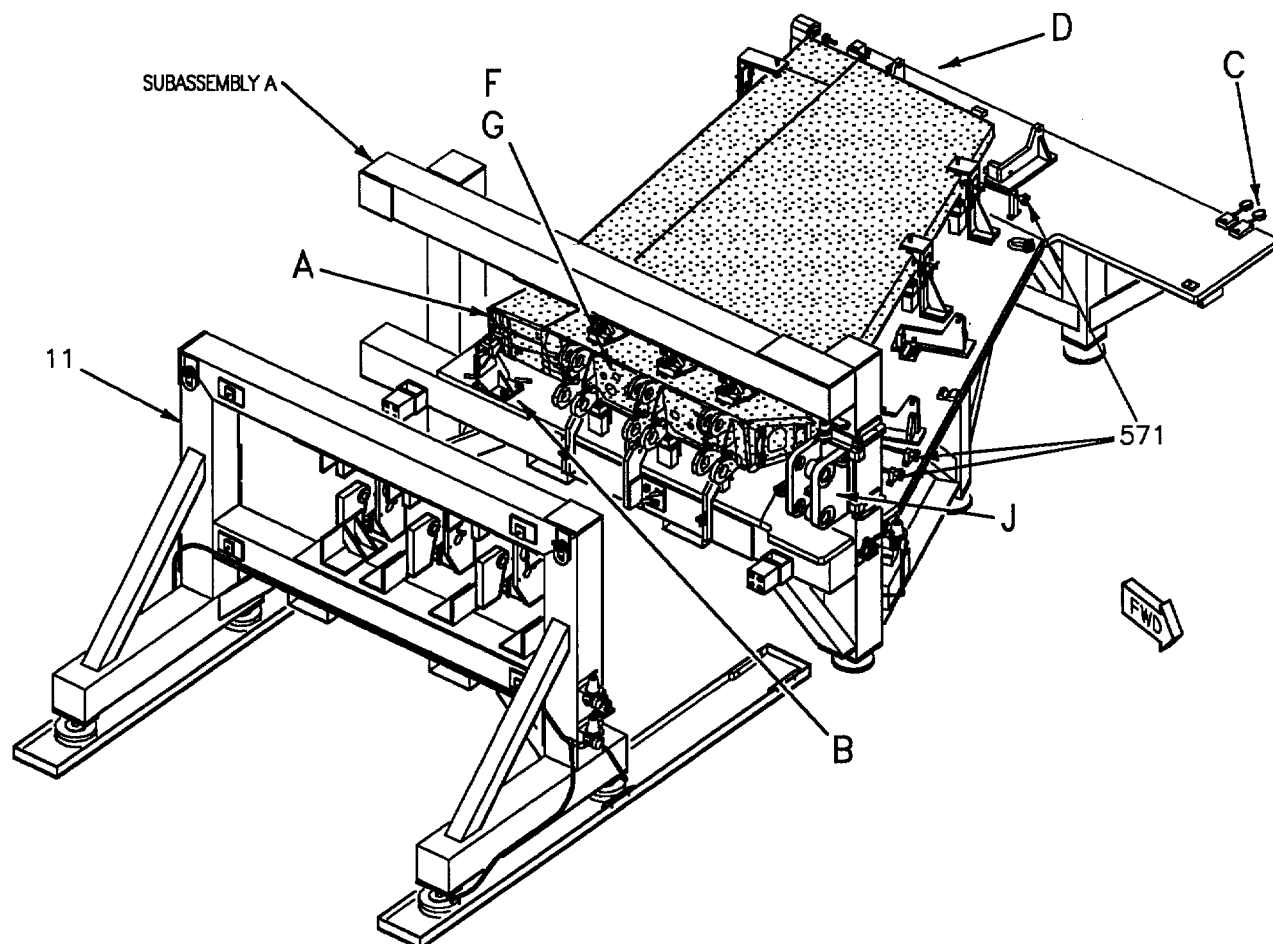


Figure 4. Inner Wing Attach Lugs (Sheet 1)

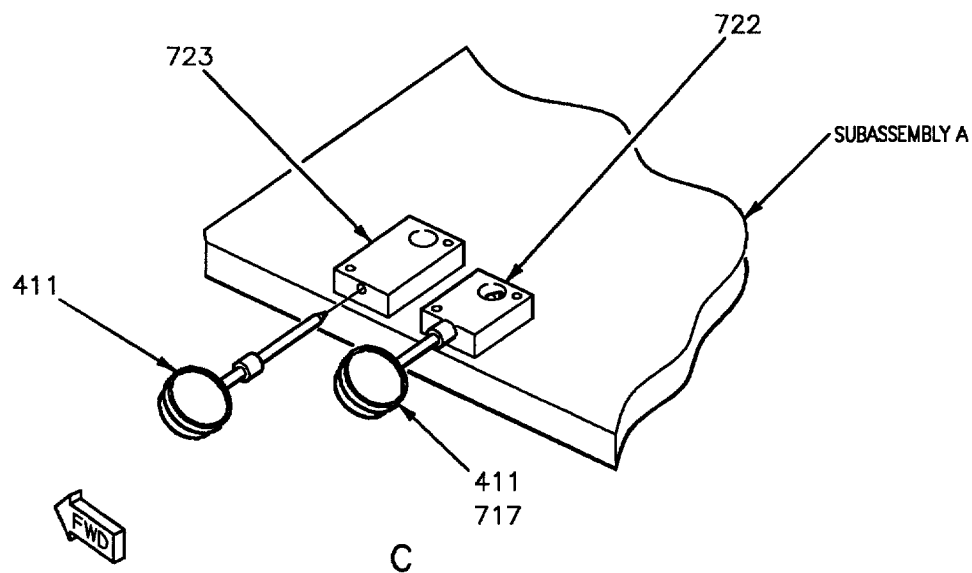
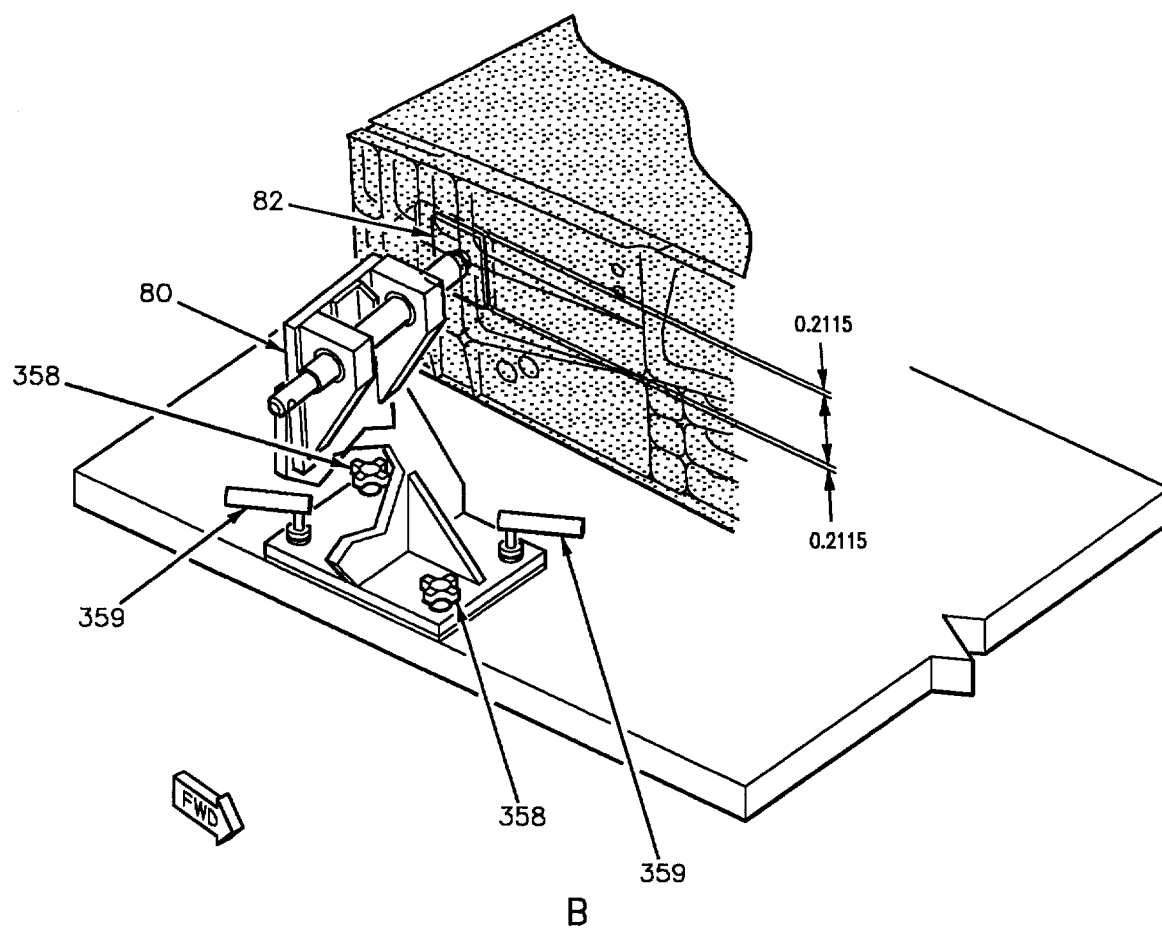


Figure 4. Inner Wing Attach Lugs (Sheet 2)

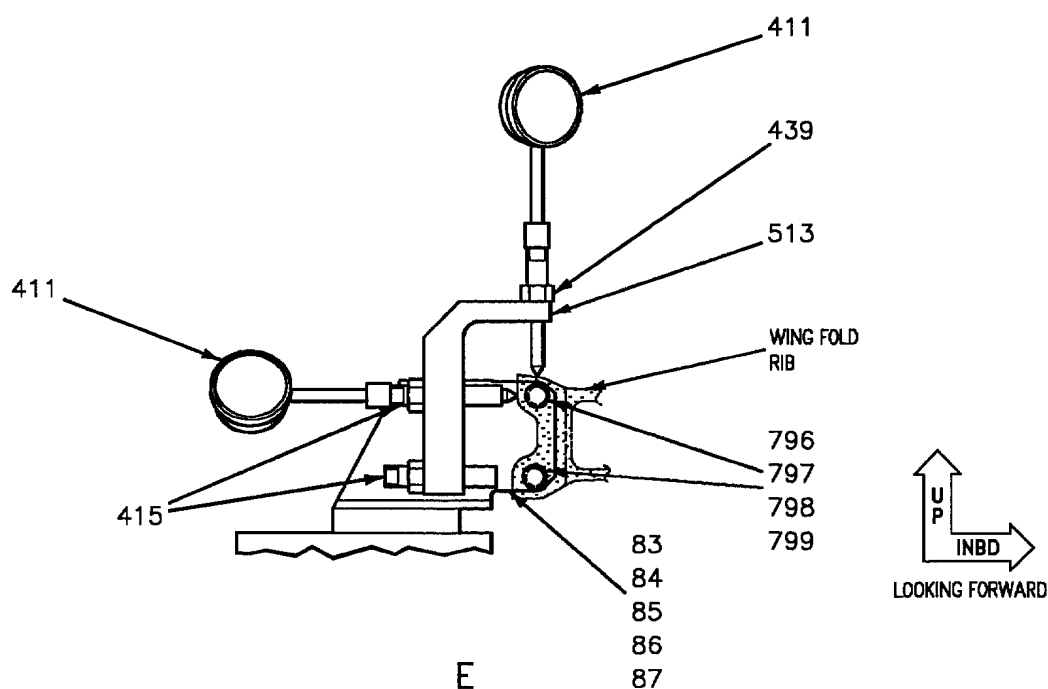
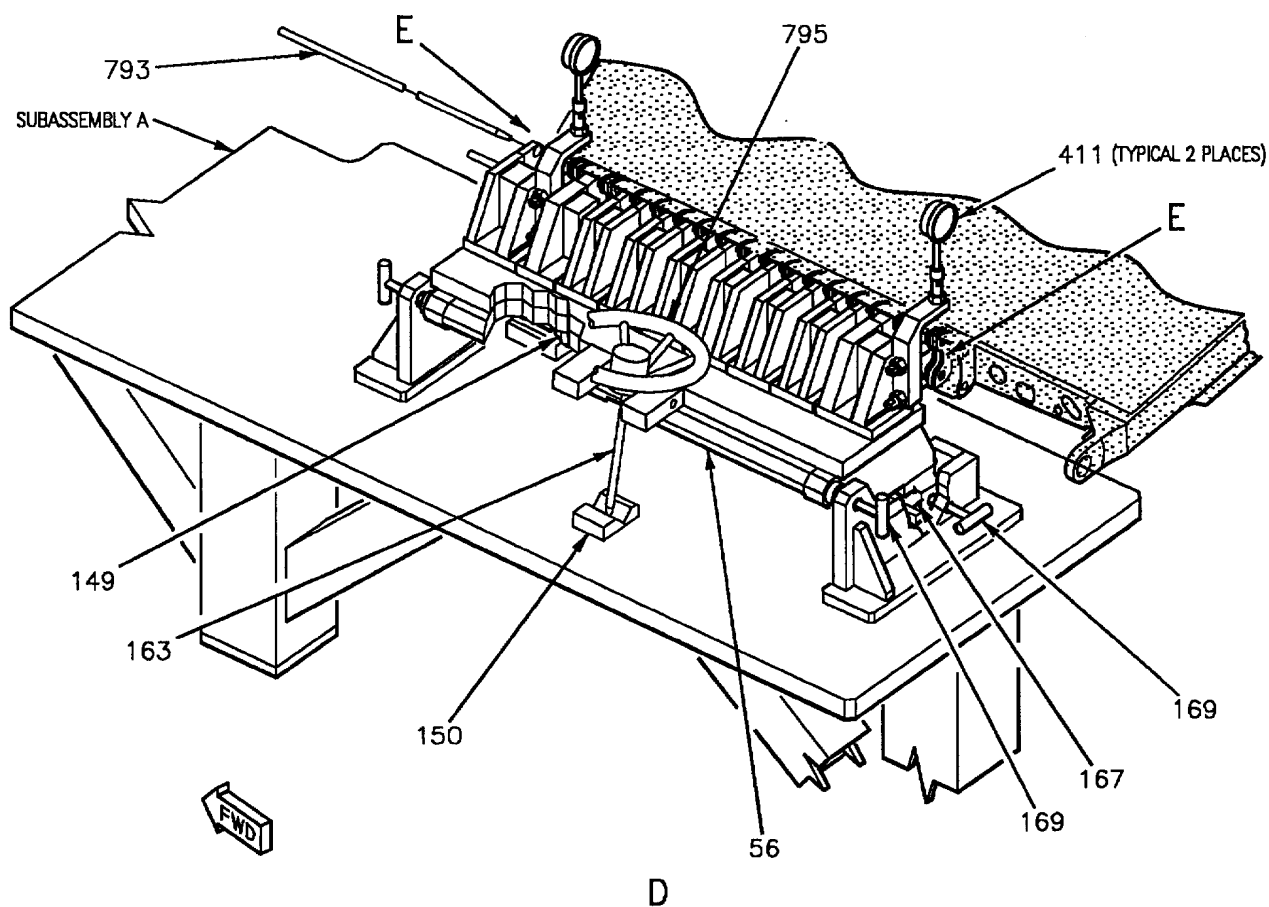
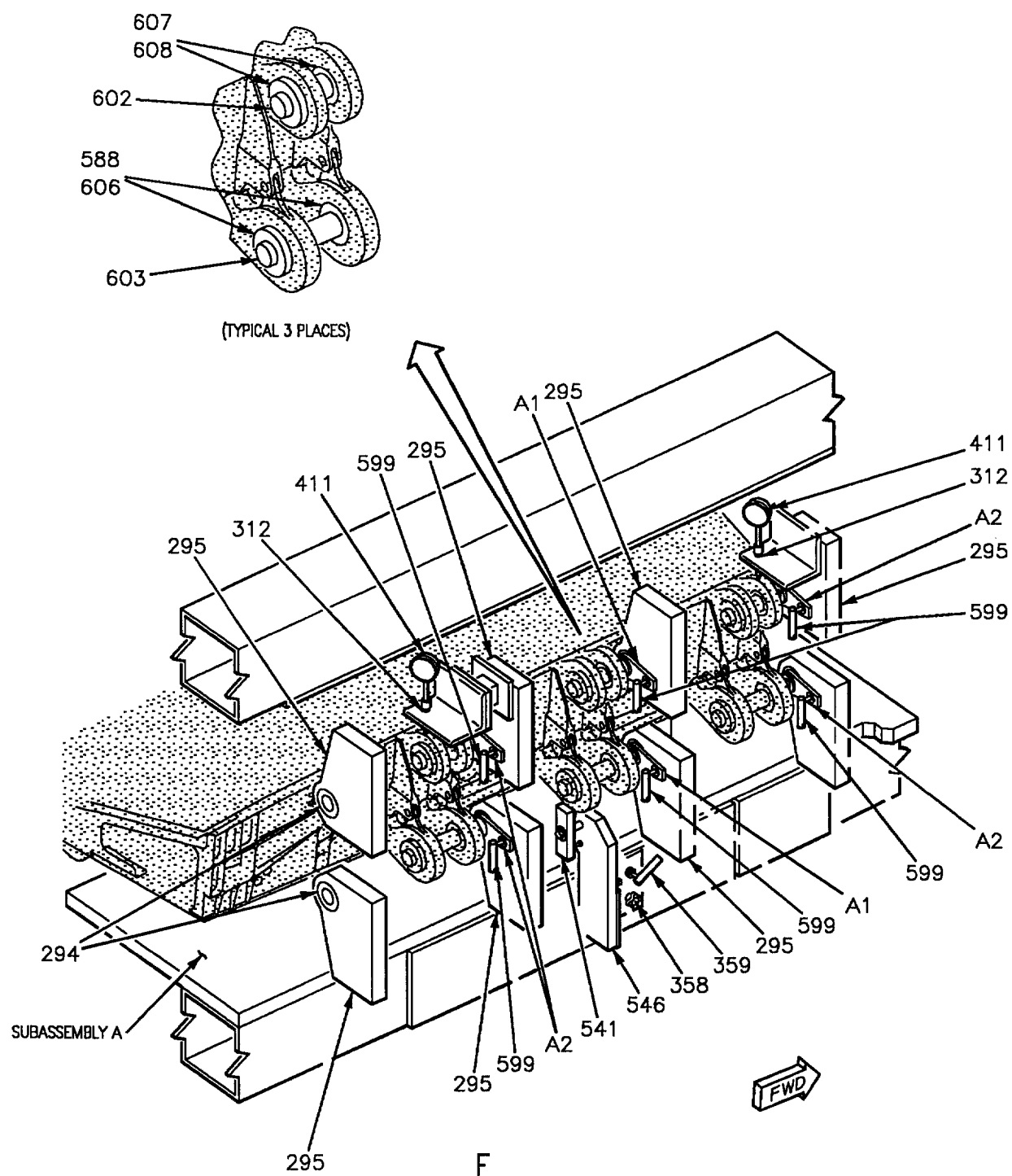


Figure 4. Inner Wing Attach Lugs (Sheet 3)



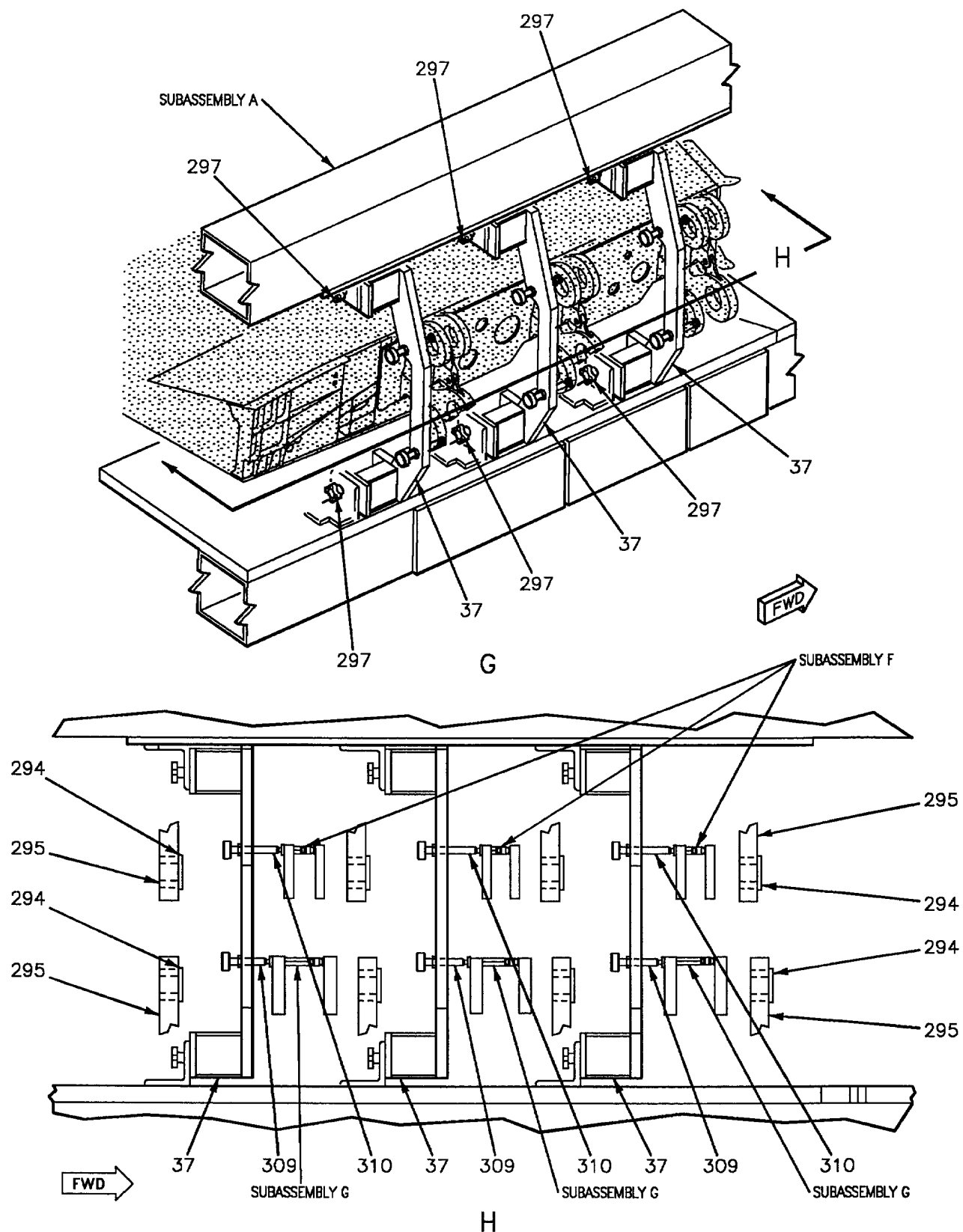


Figure 4. Inner Wing Attach Lugs (Sheet 5)

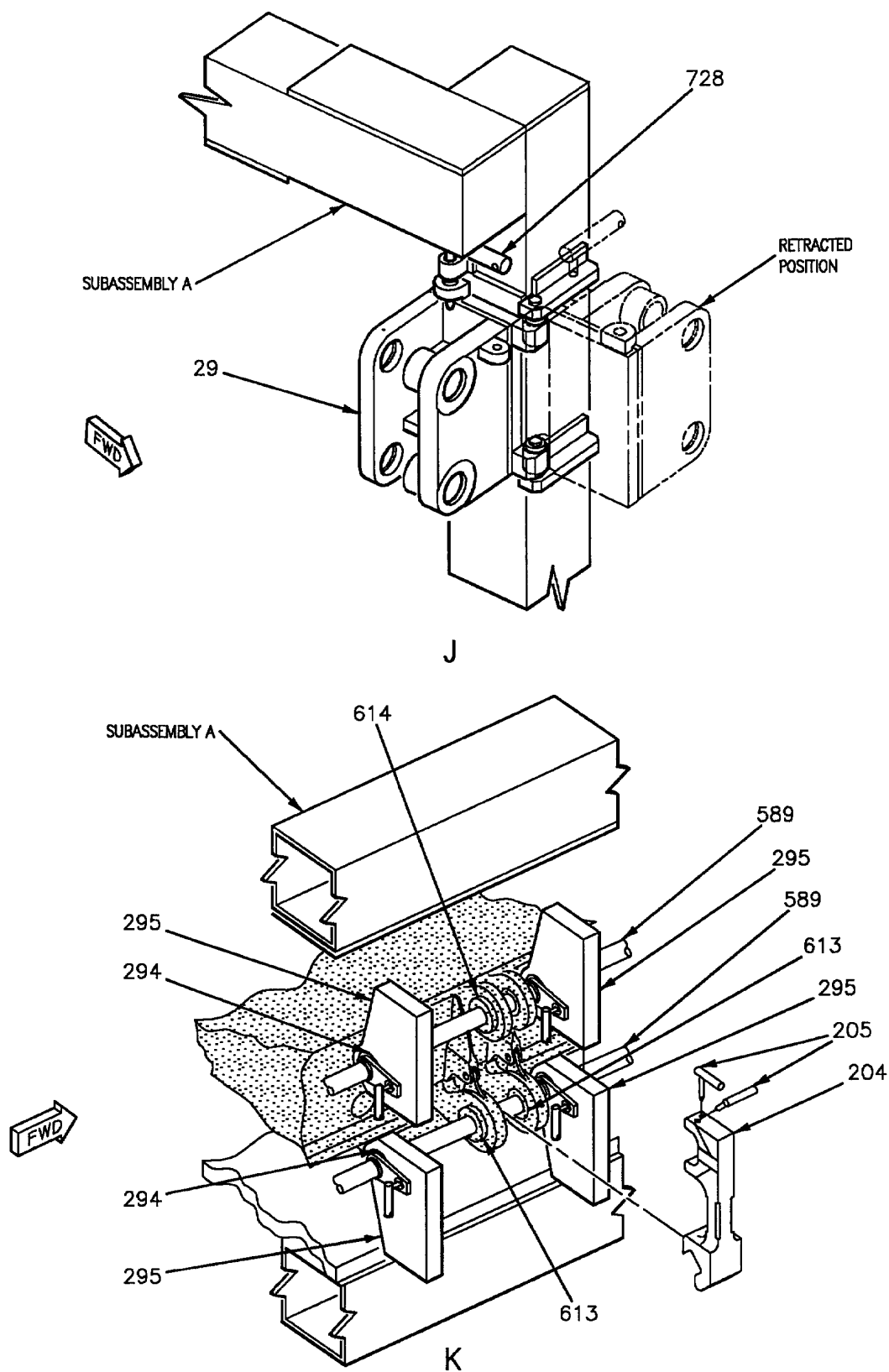


Figure 4. Inner Wing Attach Lugs (Sheet 6)

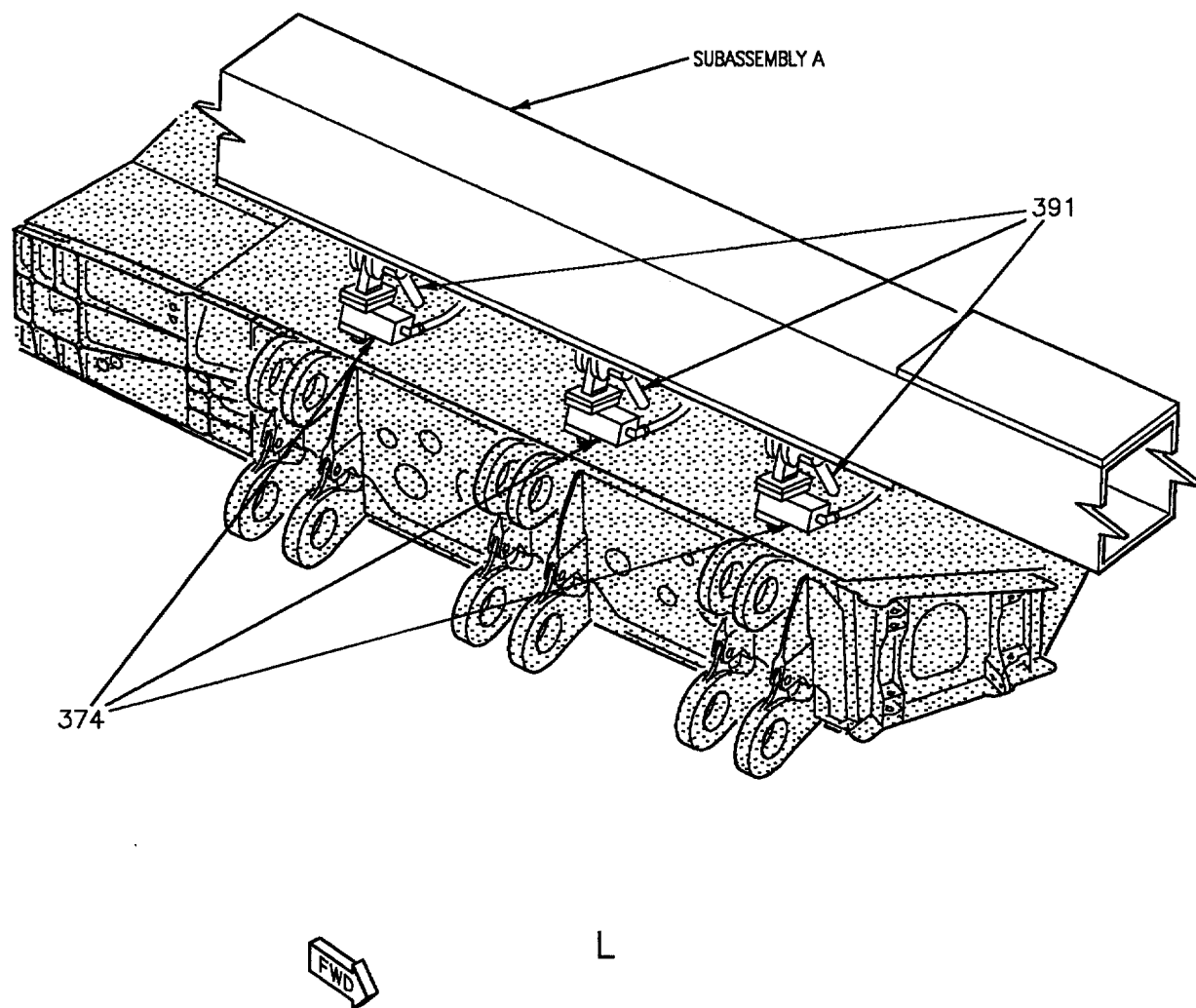


Figure 4. Inner Wing Attach Lugs (Sheet 7)

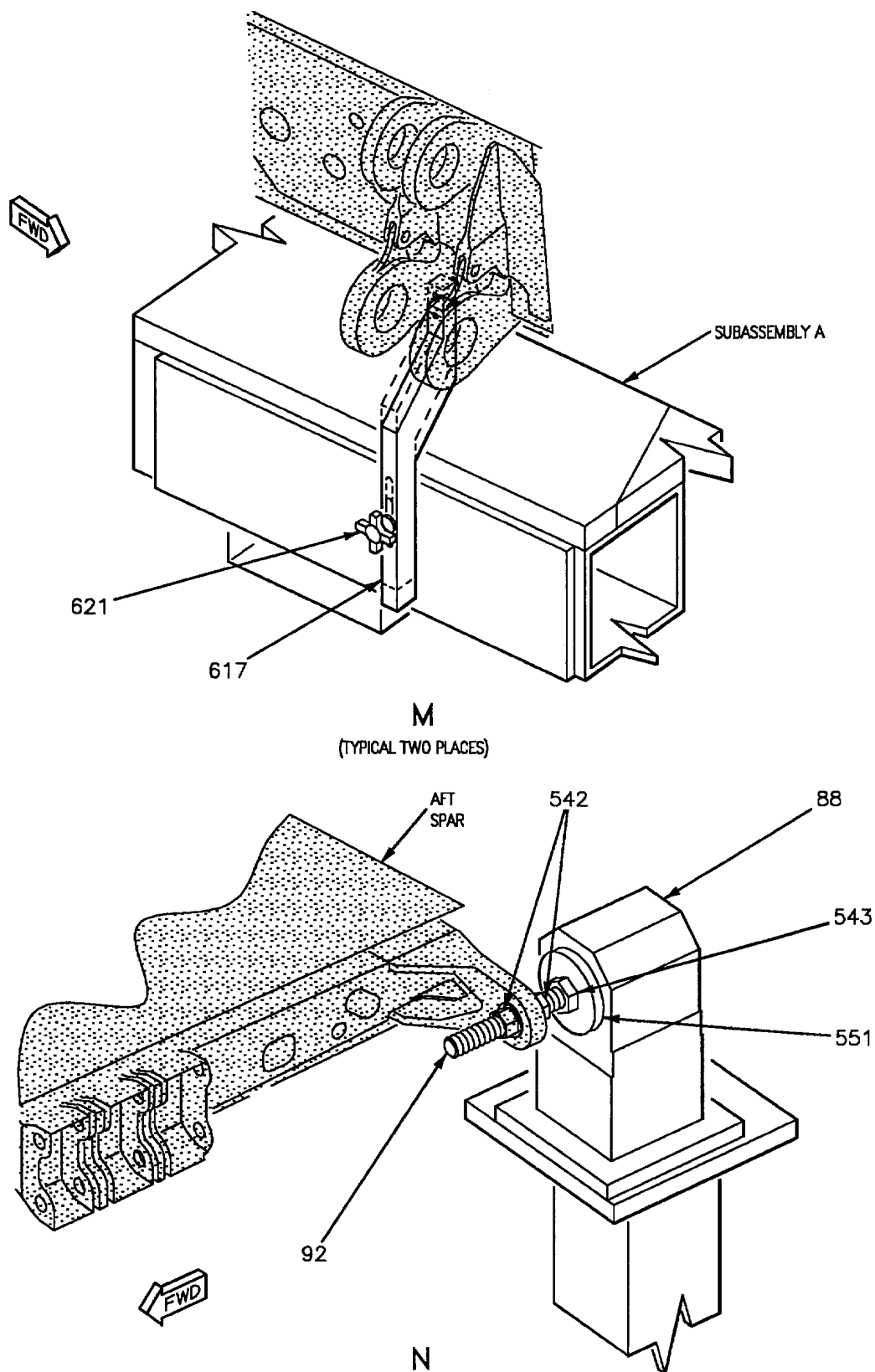


Figure 4. Inner Wing Attach Lugs (Sheet 8)

Detail No.	Name	Function
Subassembly A	Holding Fixture	Holds and secures wing for drilling operations.
A1	Check Bushing	Installs in upper attach lugs for pinning wing.
A2	Check Bushing	Installs in lower attach lugs for pinning wing.
11	Frame	Movable frame for alignment, pinning and drilling wing attach lugs and bushings.
16	Support	Supports and positions detail 56 with wing fold lug.
29	Drill Guide	For attaching drill motor and guiding boring bar through attach lugs.
37	Locator Board	Locates wing lugs for boring and reaming.
56	Locator	Locates wing at wing fold lug for pinning and drilling.
80	Support	Supports detail 82 for location of wing.
82	Locator	Locates wing at aft shear tie hole.
83, 84, 85, 86, 87	Bushing Locator	Aligns wing fold rib attach holes for installation.
149	Pivot	Pinned to allow detail 56 to pivot into position.
158	Stop	Stops detail 56 from moving further inboard.
167	Pivot	Pinned to allow detail 56 to pivot into position.
204	Lug Spacing Tool	Inspects inner wing attach lugs for interchangeability with fuselage.
205	L-Pin	Inserts in lug spacing tool (detail 204) to locate.
290	Drill Bushing	Guides drill through upper attach lugs for drilling and reaming.
291	Drill Bushing	Guides drill through lower forward and aft attach lugs for drilling and reaming.
294	Bushing	Installs in detail 295 for pinning attach lugs.
295	Locator	Locates wing attach lugs for pinning and drilling.
297	Hand Knob	Secures detail 37 to subassembly A.
303	L-Pin	Secures detail 29 in retracted and extended position.
310	Thumb Screw	Secures detail 37 to wing lug.
312	Indicator Sleeve	Locates dial indicator to wing structure.
314, 315	Locator	Locates detail 291 for drilling and reaming.
330	Locator	Locates detail 290 for drilling and reaming.

Figure 4. Inner Wing Attach Lugs (Sheet 9)

Detail No.	Name	Function
358	Hand Knob	Secures detail 546 to subassembly A.
359	L-Pin	Locates and attaches detail 546 to subassembly A.
411	Dial Indicator	Measures distance for correct location of wing.
415	Indicator Sleeve	Locates dial indicator to wing structure.
439	Indicator Sleeve	Locates dial indicator to wing structure.
513	Locator	Locates indicator sleeves to wing structure.
541	Strap Clamp	Secures lower aft center wing lug against detail 546.
546	Locator	Locates wing for forward/aft position at lower aft center attach lug.
554	Drill Bushing	Guides drill through lower center attach lugs for drilling and reaming.
571	Hand Knob	Adjusts height of air pad support.
588	Bushing	Installs in pilot size attach lug holes for pinning lower lugs.
589	Pin	Pins wing lugs to drilling machine.
599	L-Pin	Locates and attaches check bushings to attach lugs.
602	Pin	Pins upper attach lugs with check bushings installed.
603	Pin	Pins lower attach lugs with check bushings installed.
606	Bushing	Installs in nominal size attach lug holes for pinning lower lugs.
607	Bushing	Installs in upper attach lug holes nominal size for pinning with detail 602.
608	Bushing	Installs in upper attach lug holes first oversize for pinning with detail 602.
613	Bushing	Installs in wing lug bushing holes for pinning lower lugs.
717	Dial Indicator	Measures distance for correct location of wing.
722	Indicator Setting Block	Sets dial indicator to three inches.
723	Indicator Setting Block	Sets dial indicator to four inches.
758	Wheel	Adjusts detail 56 for inboard/outboard position.
793	Pin	Inserts through bushing locators into wing fold lugs.
795	Wheel	Adjusts bushing locators for alignment with structure.
796, 797, 798, 799	Bushing	Installs in bushing locators (details 83 thru 87).

Figure 4. Inner Wing Attach Lugs (Sheet 10)

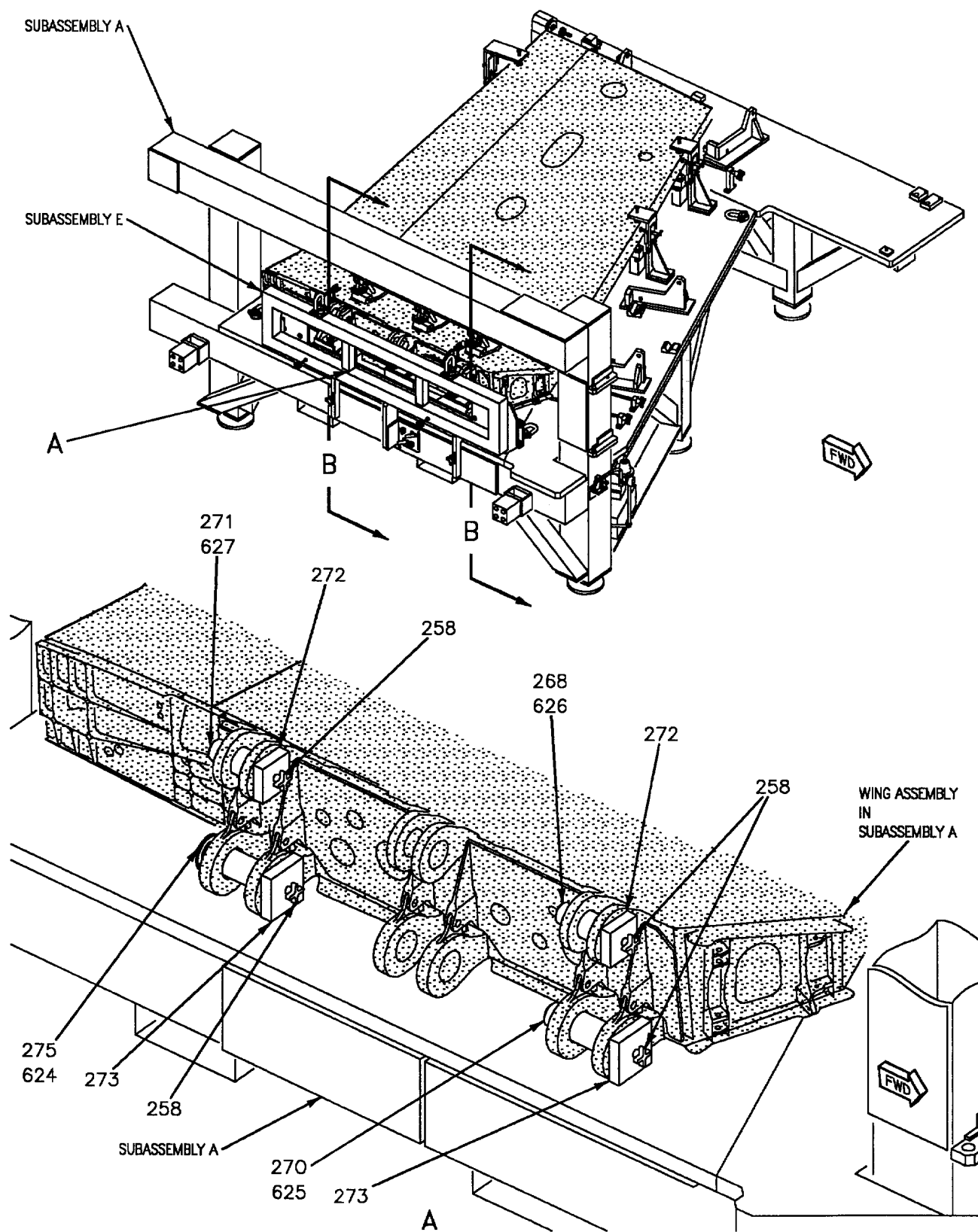


Figure 5. Inner Closure Rib (Sheet 1)

04050501

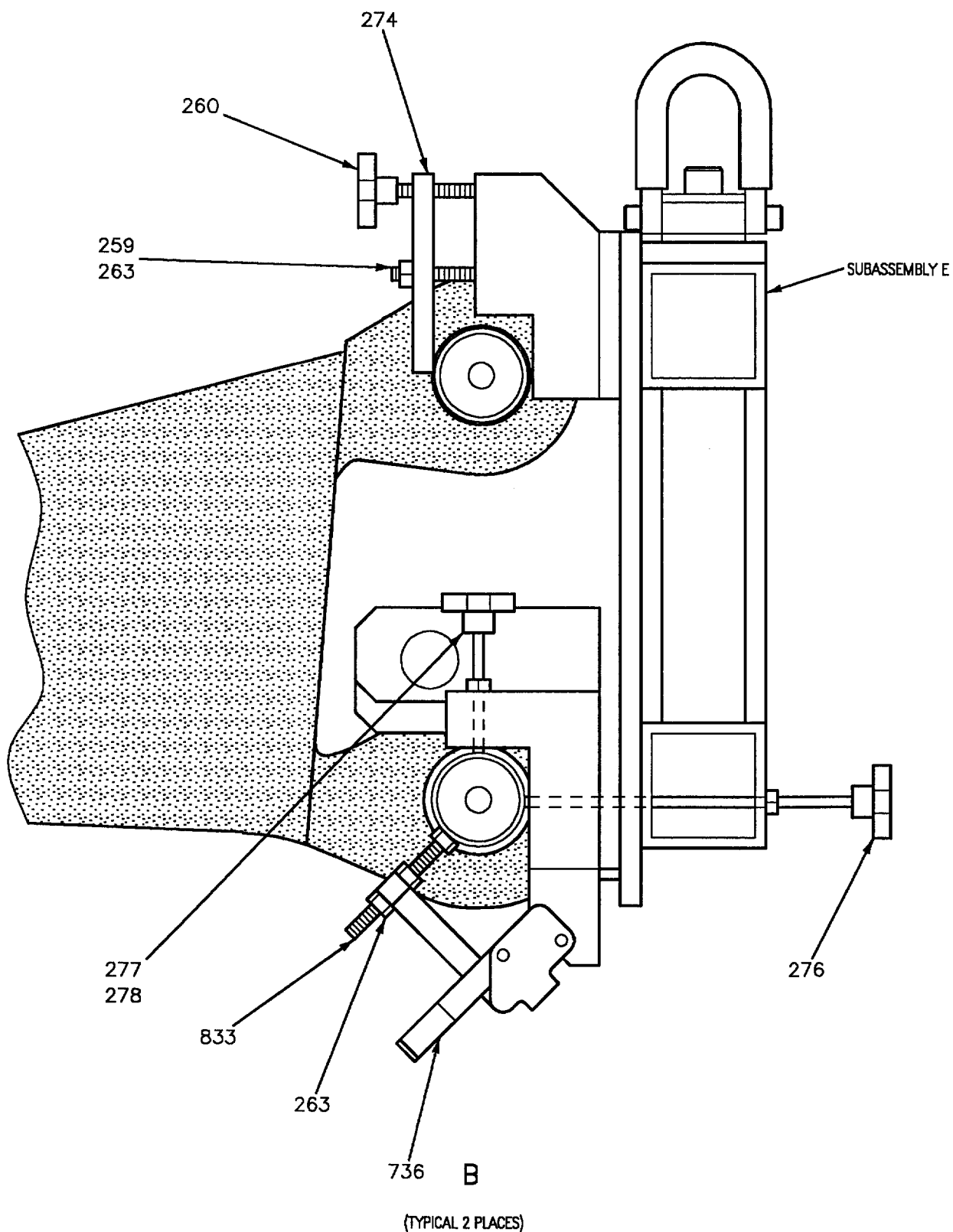


Figure 5. Inner Closure Rib (Sheet 2)

Detail No.	Name	Function
Subassembly A	Holding Fixture	Holds and secures wing for drilling operations.
Subassembly E	Attach Lug Shear Tie Drill Fixture	Locates and guides drill for inner closure rib/lower attach lug shear tie.
258	Hand Knob	Secures attach pins in place in wing lugs and subassembly E.
259	Threaded Rod	Adjusts detail 274.
260	Hand Knob	Locates and adjusts detail 274.
263	Hex Nut	Secures detail 259 in place.
268	Attach Pin	Attaches subassembly E to attach lugs at upper forward location for pilot size hole.
270	Attach Pin	Attaches subassembly E to lug at lower forward location for pilot size hole.
271	Attach Pin	Attaches subassembly E to attach lugs at upper aft location for pilot size holes.
272	Locator Block	Locates attach pins in upper forward and aft attach lugs.
273	Locator Block	Locates attach pins in lower forward and aft attach lugs.
274	Bar Clamp	Secures upper attach lugs in place in subassembly E.
275	Attach Pin	Attaches subassembly E to attach lugs at lower aft location for pilot size hole.
276	Hand Knob	Secures subassembly E in nominal position.
277	Hand Knob	Adjusts subassembly E at aft attach lugs.
278	Hand Knob	Adjusts subassembly E at forward attach lugs.
624	Attach Pin	Attaches subassembly E to attach lugs at lower aft location for bushing inside diameter.
625	Attach Pin	Attaches subassembly E to attach lugs at lower forward location for bushing inside diameter.
626	Attach Pin	Attaches subassembly E to attach lugs at upper forward location for bushing inside diameter.
627	Attach Pin	Attaches subassembly E to attach lugs at upper aft location for bushing inside diameter.
736	Toggle Clamp	Secures lower attach lugs in place in subassembly E.
833	Hex Head Screw	Secures subassembly E to attach pins.

Figure 5. Inner Closure Rib (Sheet 3)

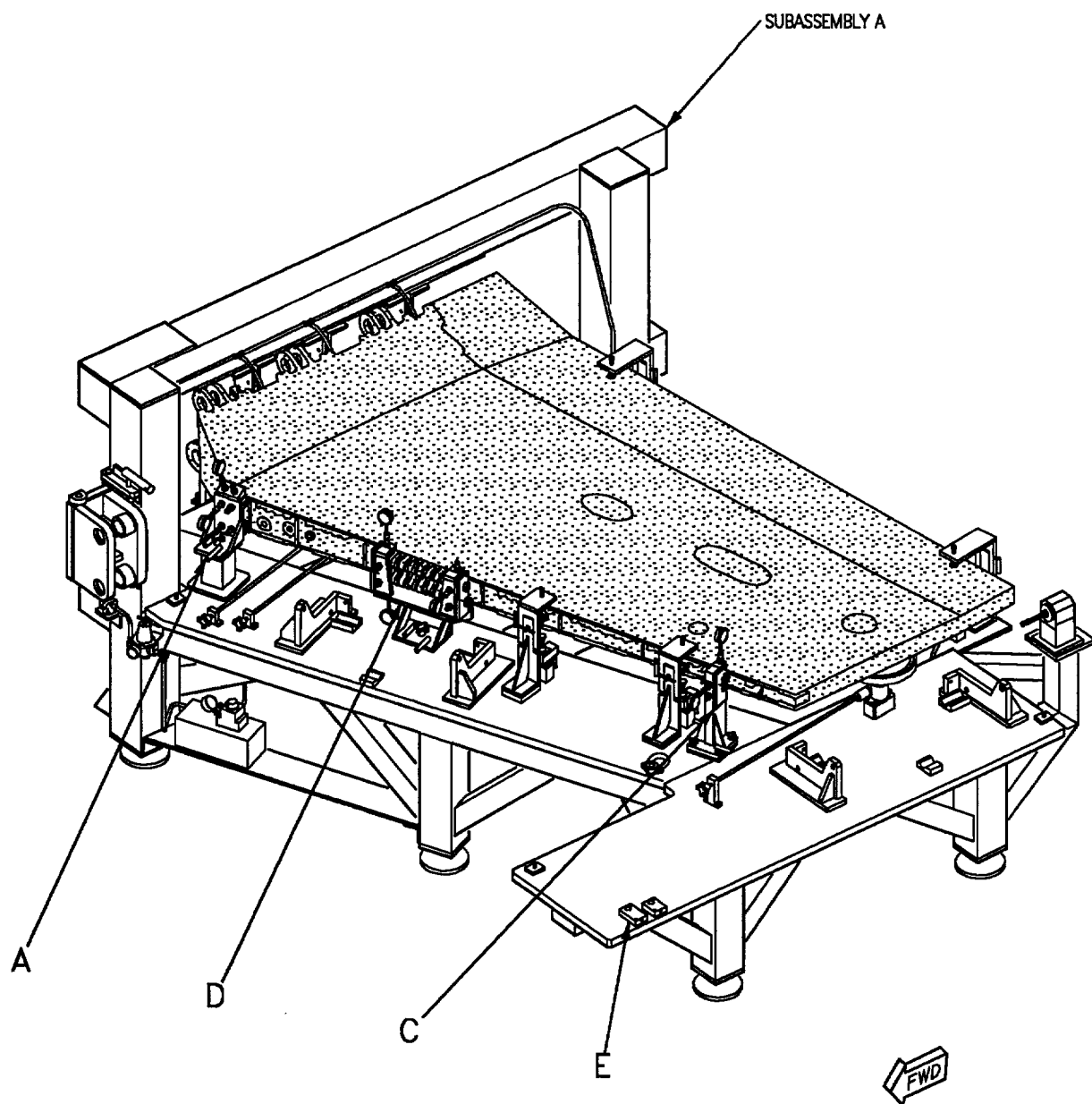
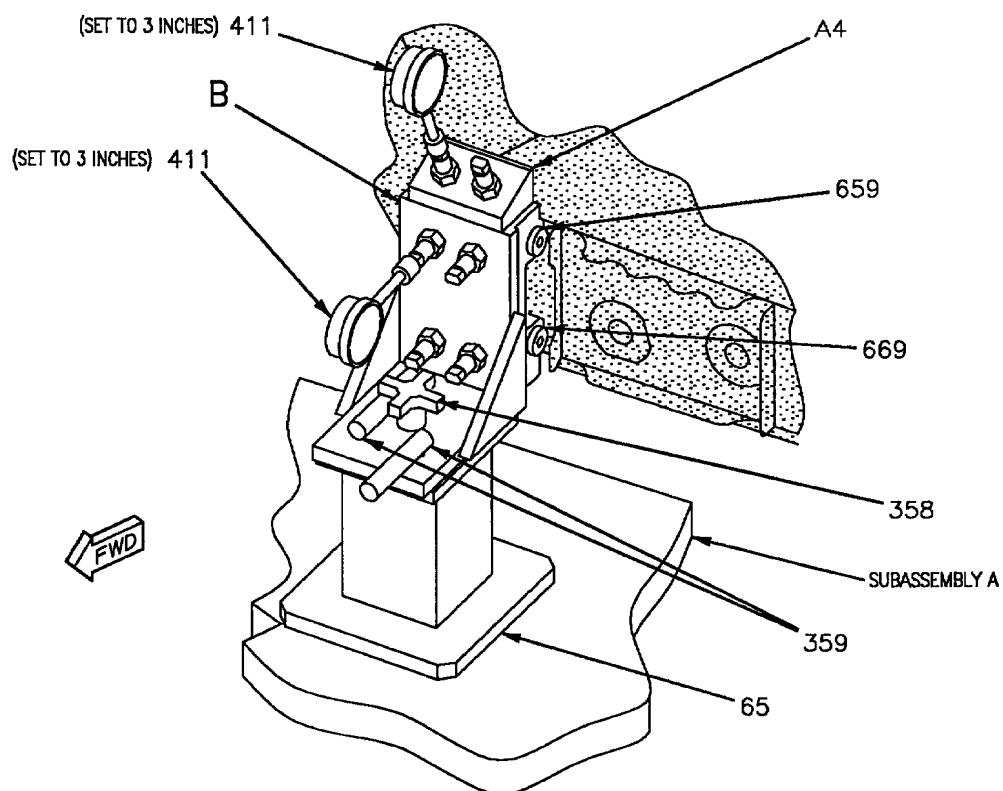
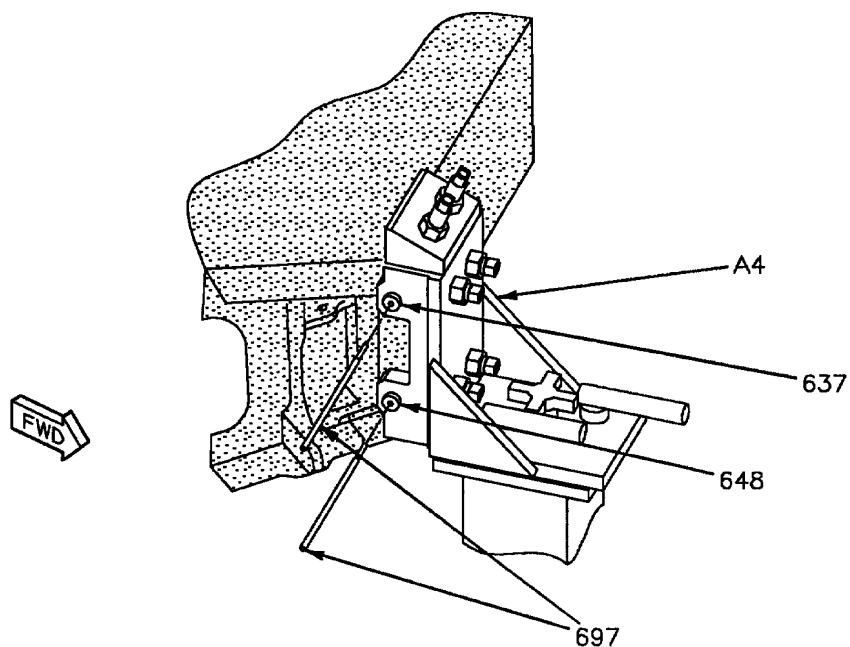


Figure 6. Forward Spar (Sheet 1)



A



B

Figure 6. Forward Spar (Sheet 2)

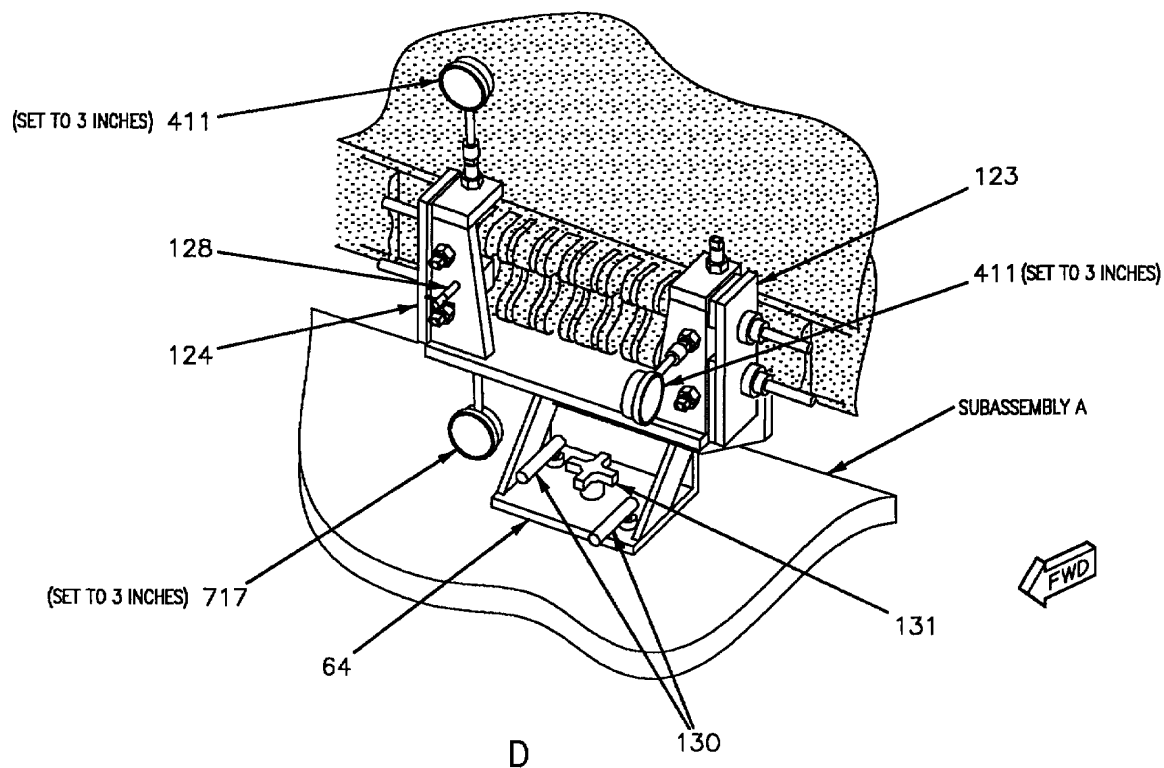
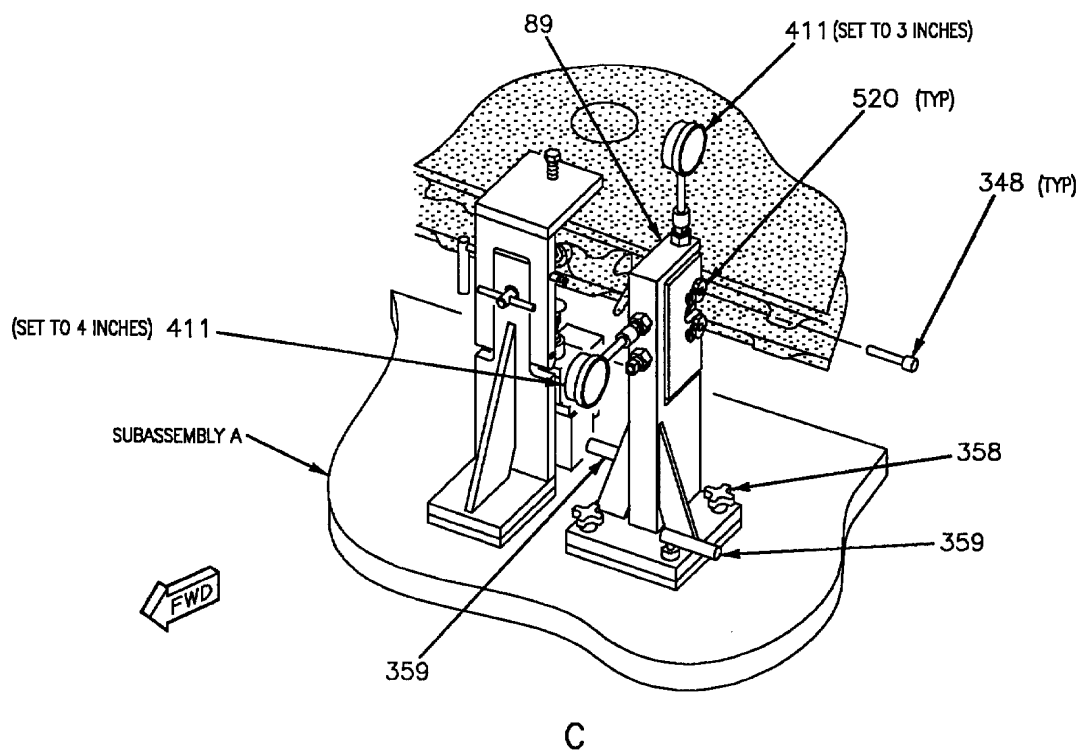


Figure 6. Forward Spar (Sheet 3)

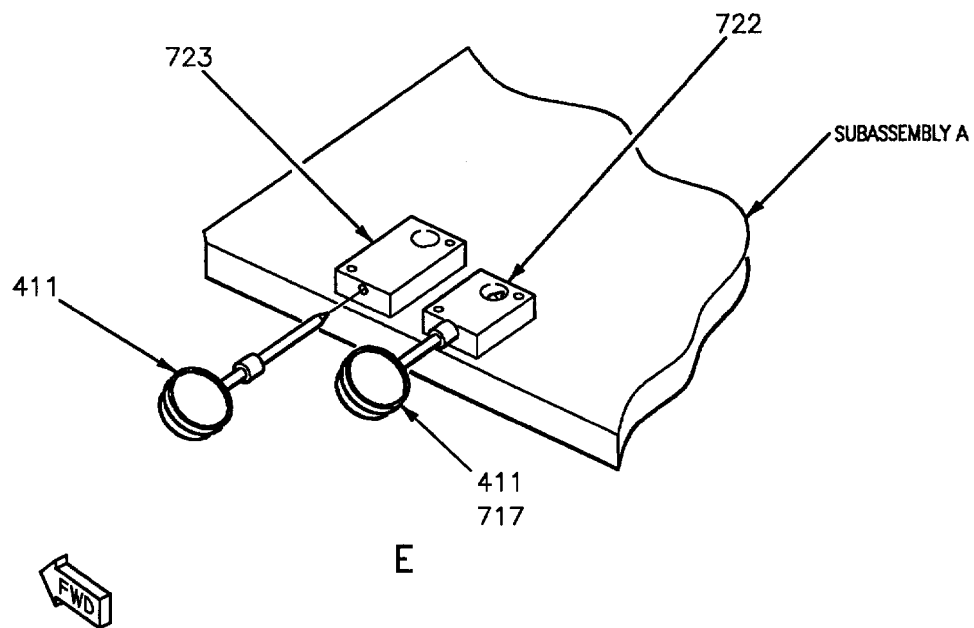


Figure 6. Forward Spar (Sheet 4)

Detail No.	Name	Function
Subassembly A	Holding Fixture	Holds and secures wing for drilling operations.
A4	Check Locator	Locates inboard idler lug and drill for transmission holes.
11	Frame	Movable frame for alignment, pinning and drilling wing attach lugs and bushings.
64	Support	Supports and locates details 123 and 124 for pinning inboard and outboard transmission lugs.
65	Support Stand	Supports detail A4 on subassembly A.
89	Locator	Locates outboard idler lug and drill for transmission holes.
123	Locator	Locates outboard transmission lug for pinning and drilling.
124	Locator	Locates inboard transmission lug for pinning and drilling.
128	Adjustment Pin	Adjusts inboard/outboard location of forward spar.
130	L-Pin	Locates and attaches detail 64 to subassembly A.
131	Hand Knob	Secures detail 64 to subassembly A.
348	Pin	Locates and attaches the forward spar at the outboard idler lug, for pilot size hole.
358	Hand Knob	Secures locator details on subassembly A.
359	L-Pin	Locates and installs locator details on subassembly A.
411	Dial Indicator	Measures distance for correct location of part in fixture.
520	Drill Bushing	Guides pin or drill for upper hole of outboard idler lug, pilot size hole.
637	Drill Bushing	Guides pin or drill for upper inboard hole of the inboard idler lug, pilot size hole.
648	Drill Bushing	Guides pin or drill for lower inboard hole of the inboard idler lug, pilot size hole.
659	Drill Bushing	Guides pin or drill for upper outboard hole of the inboard idler lug, pilot size hole.
669	Drill Bushing	Guides pin or drill for lower outboard hole of the inboard idler lug, pilot size hole.

Figure 6. Forward Spar (Sheet 5)

Detail No.	Name	Function
697	Pin	Pins through bushings to locate and attach the forward spar at the inboard idler lug, for pilot size holes.
717	Dial Indicator	Measures distance for correct location of part in fixture.
722	Indicator Setting Block	Sets dial indicator to three inches.
723	Indicator Setting Block	Sets dial indicator to four inches.

Figure 6. Forward Spar (Sheet 6)

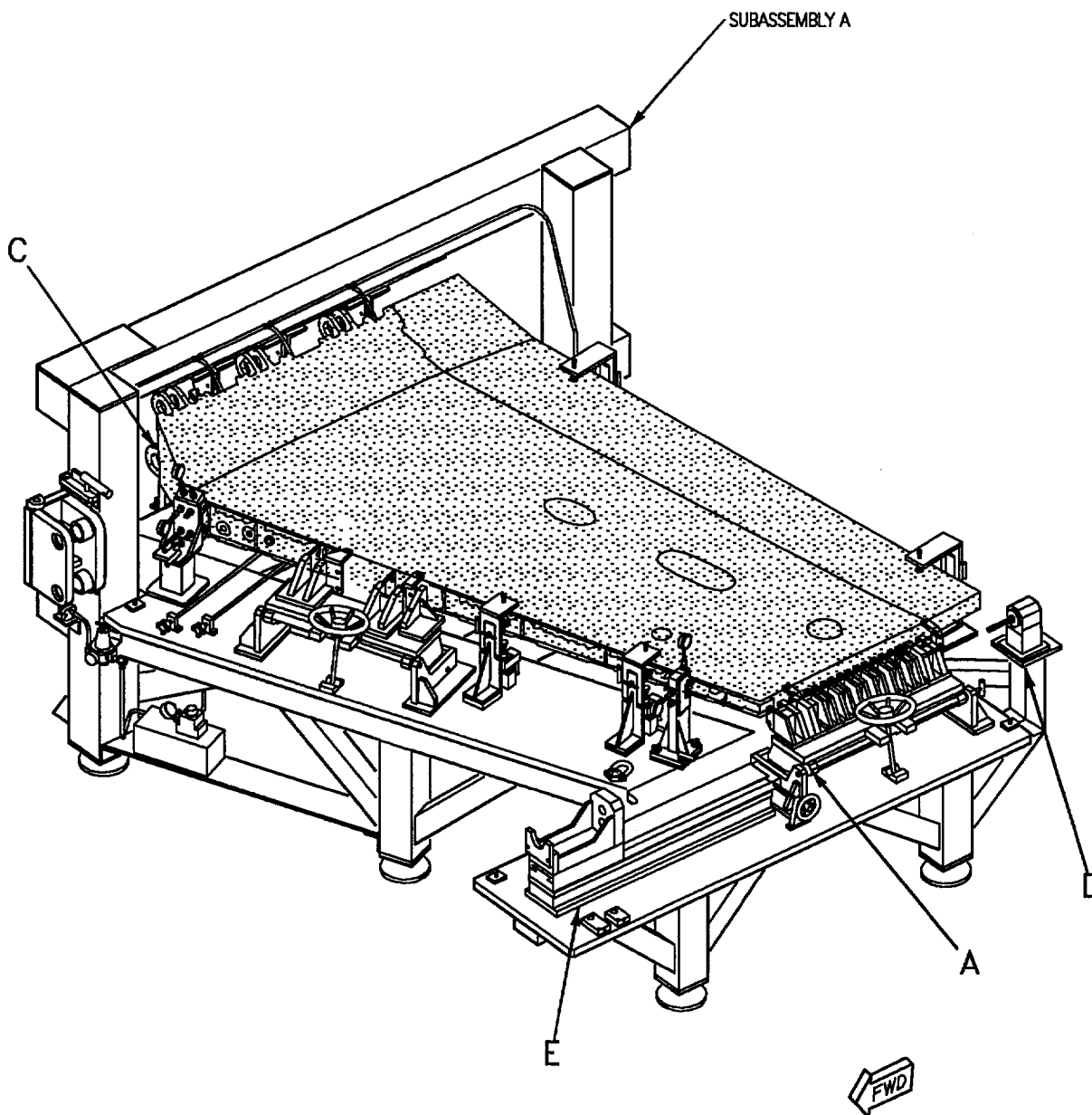


Figure 7. Wing Fold Rib (Sheet 1)

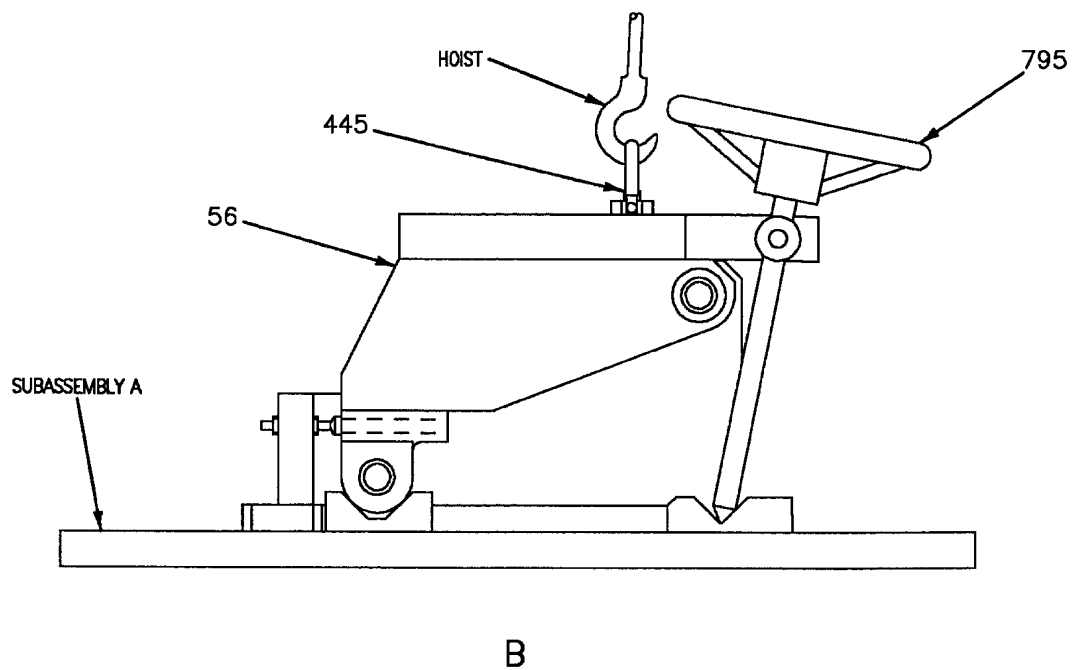
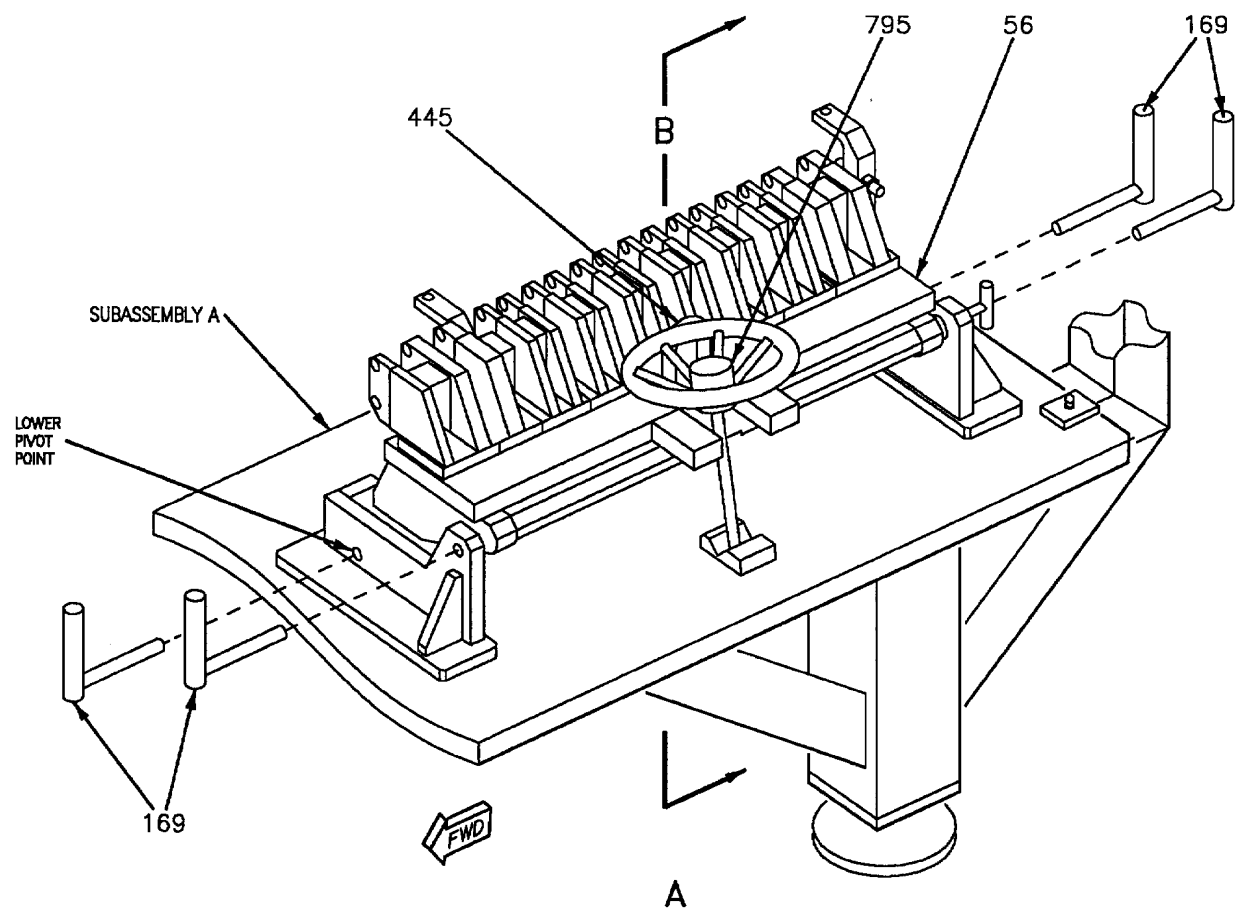


Figure 7. Wing Fold Rib (Sheet 2)

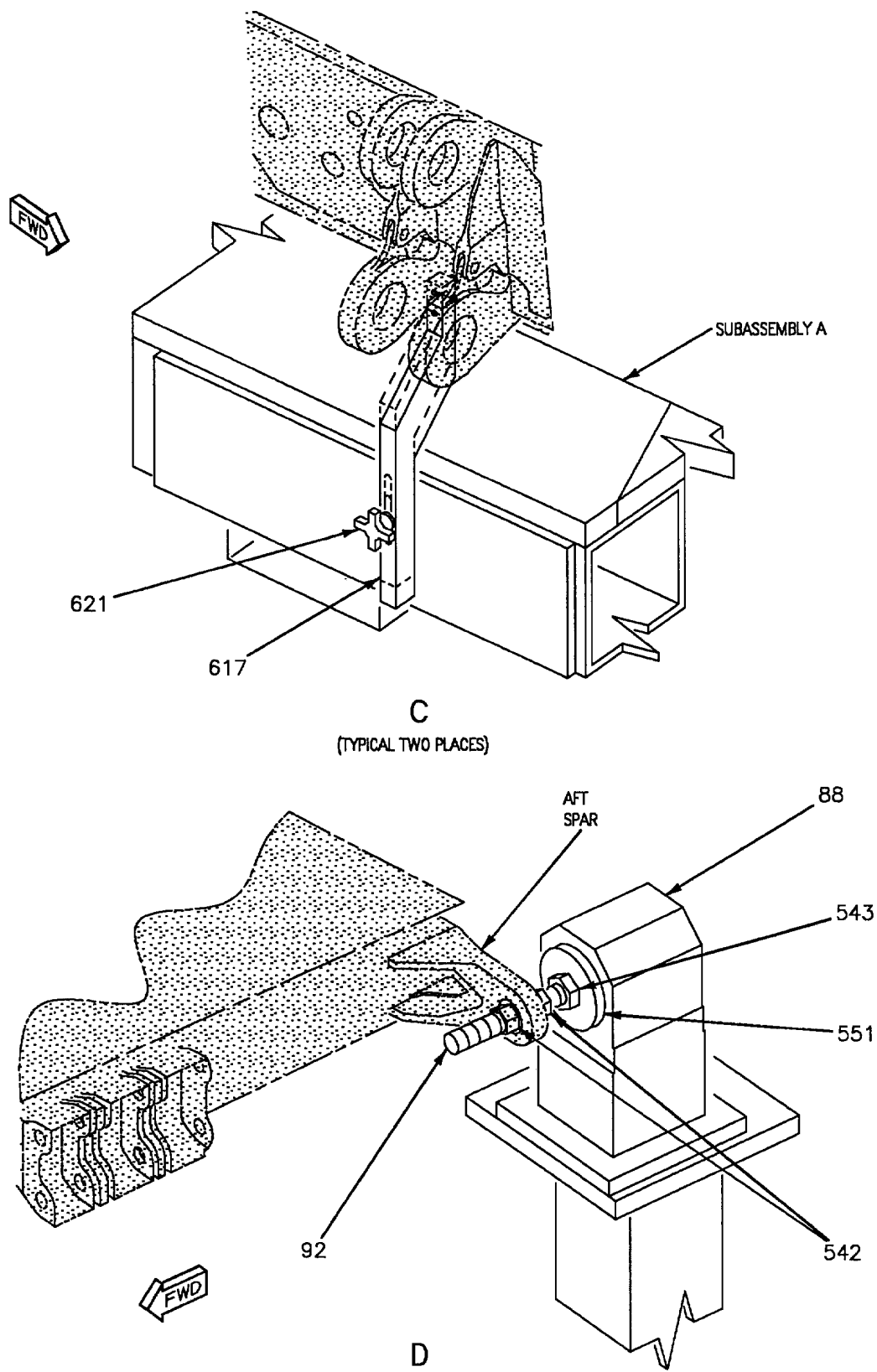


Figure 7. Wing Fold Rib (Sheet 3)

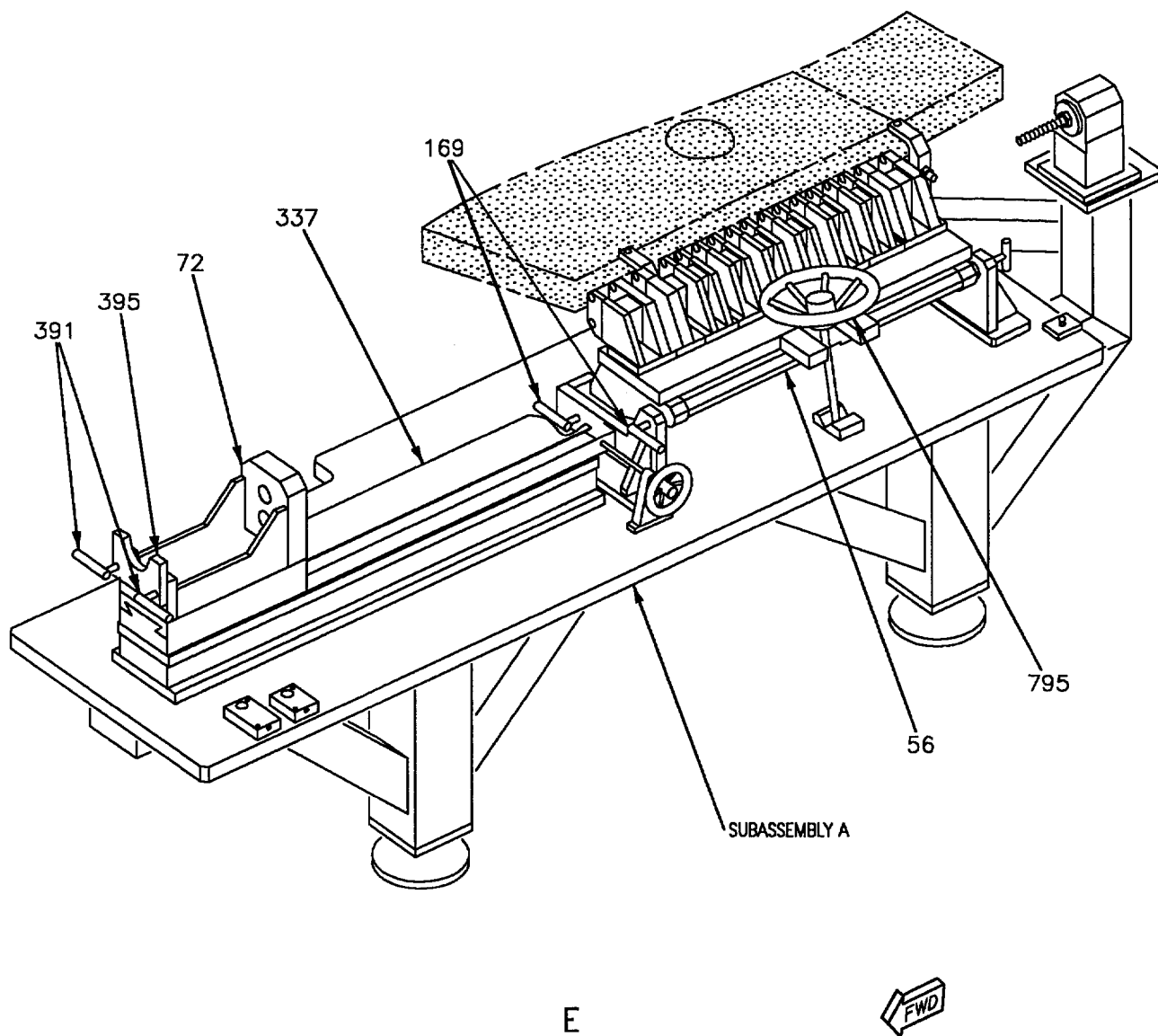


Figure 7. Wing Fold Rib (Sheet 4)

Detail No.	Name	Function
Subassembly A	Holding Fixture	Holds and secures wing for drilling operations.
56	Wing Fold Rib Locator	Locates wing fold rib and guides drill for drilling and reaming.
72	Cradle	Moves back and forth on dovetail slide assembly guiding drill motor for drilling and reaming wing fold lug holes.
88	Locator	Locates aft spar lug in place.
92	Threaded Rod	Inserts through aft spar lug for location.
169	L-Pin	Pins detail 56 in place on subassembly A for wing fold rib location.
337	Dovetail Slide Assembly	Guides drill motor along for drilling and reaming wing fold lug holes.
391	L-Pin	Locates and attaches detail 395 on detail 72.
395	Support	Adjusts to hold and locate drill motor in place for drilling.
445	Hoist Ring	For lifting detail 56 into or out of place in subassembly A.
542	Spherical Nut	Secures aft spar in place.
543	Washer	Installs on threaded rod (detail 92).
551	Jam Nut	Secures threaded rod (detail 92) in locator (detail 88).
617	Locator	Locates wing in inboard/outboard position at inner closure rib.
621	Hand Knob	Secures detail 617 in retracted or extended position.
795	Hand Wheel	Adjusts detail 56 for inboard/outboard position.

Figure 7. Wing Fold Rib (Sheet 5)

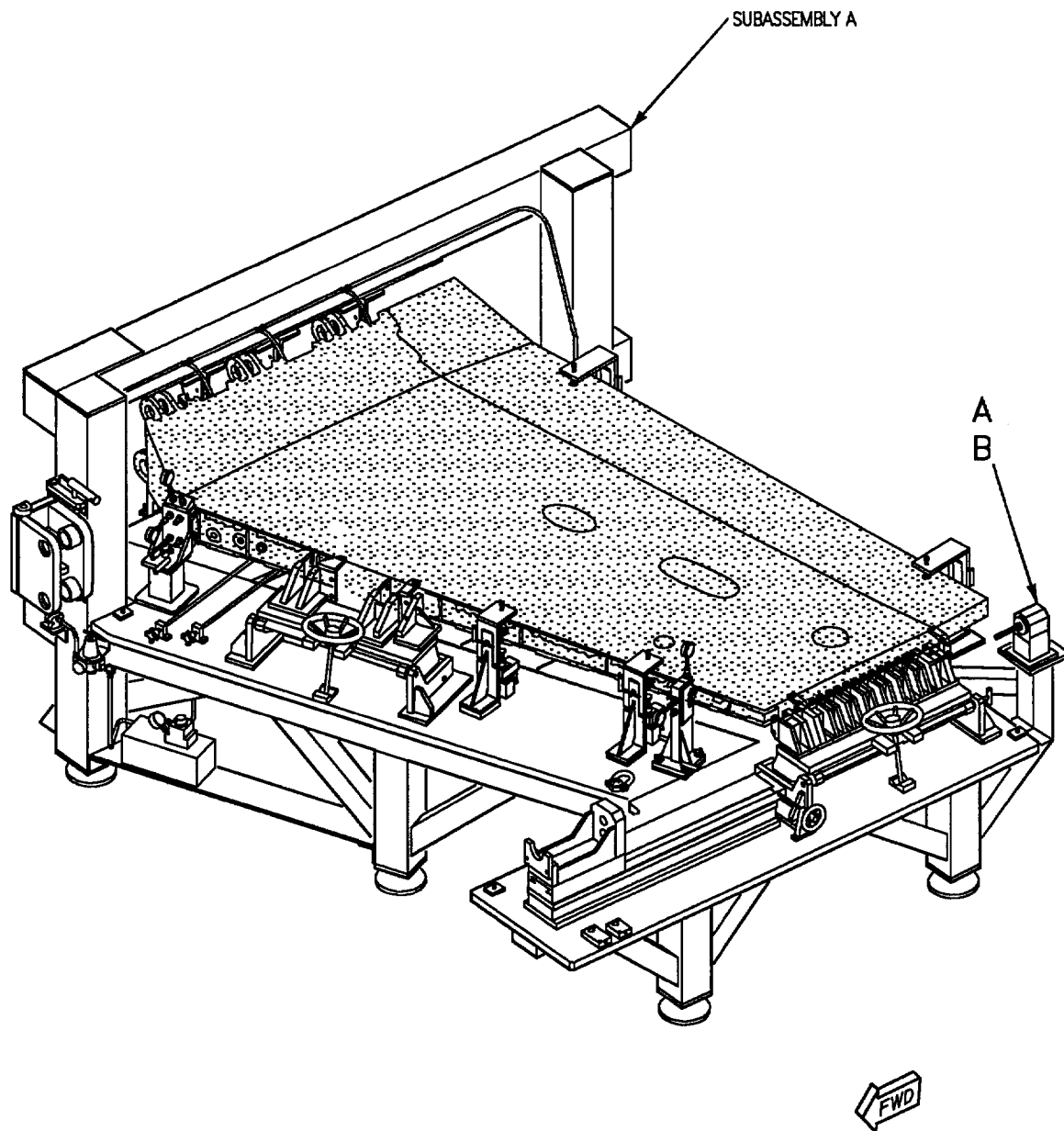


Figure 8. Aft Spar Shear Tie (Sheet 1)

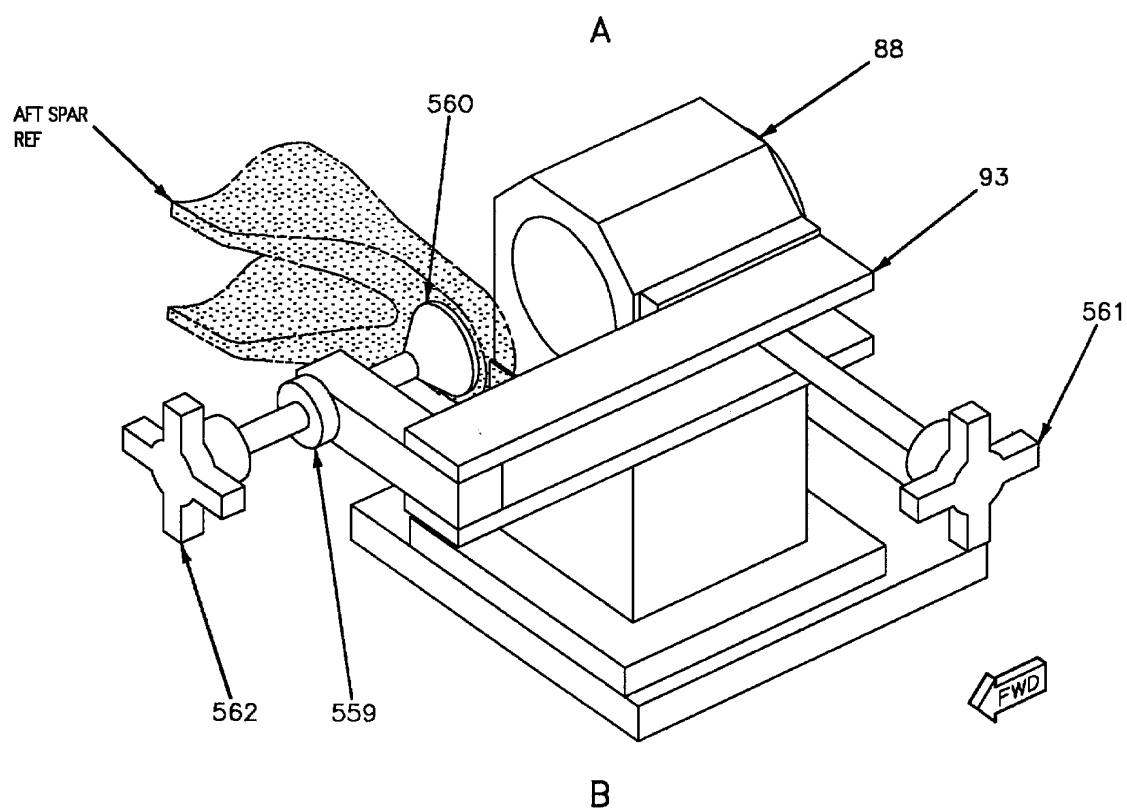
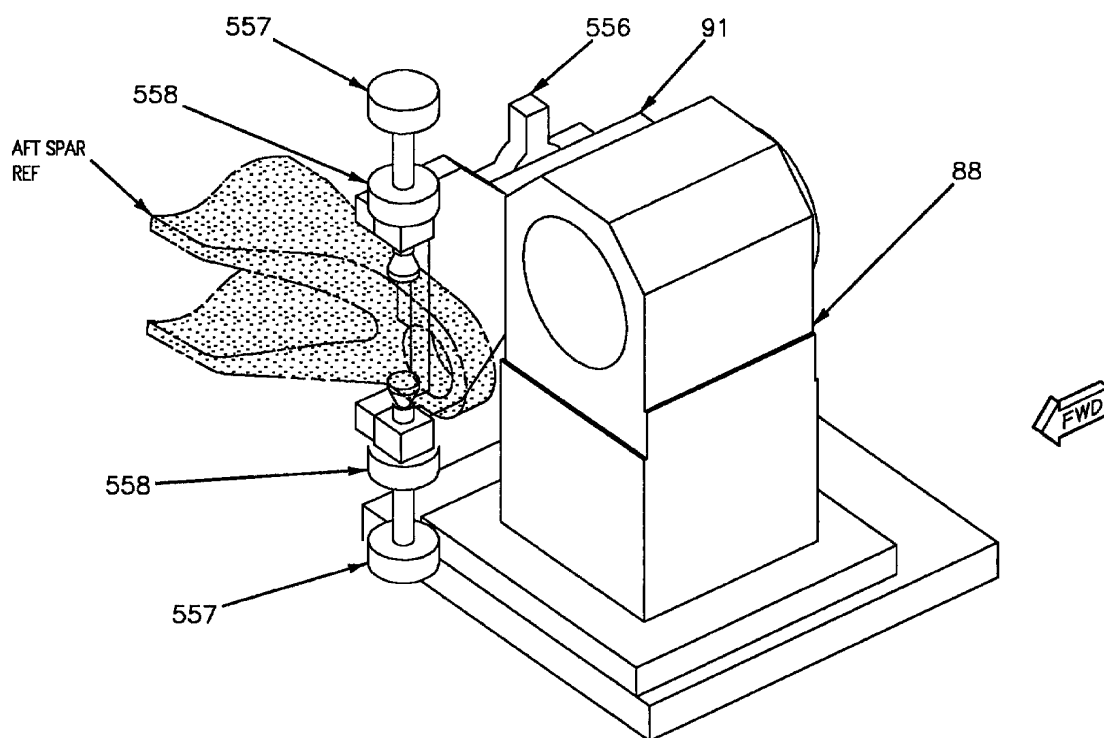


Figure 8. Aft Spar Shear Tie (Sheet 2)

Detail No.	Name	Function
Subassembly A	Holding Fixture	Holds and secures wing for drilling operations.
88	Locator	Locates aft spar lug in place.
91	Locator	Locates details 557 for securing position of aft spar lug.
93	Locator	Locates detail 560 on aft spar lug.
556	Hand Knob	Locates and secures detail 91 on locator detail 88.
557	Thumb Screw	Tightens to secure aft spar lug in proper position.
558	Knurled Nut	Tightens to secure thumbscrew in place.
559	Knurled Nut	Tightens to secure detail 562 in place.
560	Swivel Foot	Secures aft spar lug for countersinking.
561	Hand Knob	Locates and secures detail 93 to locator detail 88.
562	Hand Knob	Tightens detail 560 against aft spar lug.

Figure 8. Aft Spar Shear Tie (Sheet 3)

DEPOT MAINTENANCE

STRUCTURE REPAIR

WING TRANSMISSION LUG BUSHING TOOL KIT

PART NUMBER RE274110000-1

Reference Material

Structure Repair, Wing	A1-F18AC-SRM-210
Outer Wing Removal and Installation	WP020 00
Integrated Flight Controls	A1-F18AC-570-300
Inboard Flap (84MPU535 or 84MPV536)	WP028 00
Outboard Flap (84MPU537 or 84MPV538)	WP032 00

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Record of Applicable Technical Directives

None

1. DESCRIPTION.

Materials Required

2. The wing transmission lug bushing tool kit is used to remove and replace all transmission and idler lug bushings on the inner/outer wing assemblies and inboard/outboard leading edge flap. The tool kit consists of all tools necessary to remove and replace each bushing, including installation of first and second over-size bushings. Damaged bushings in a multiple tang lug set require that all bushings in that lug set be replaced in order to allow in-line reaming of replacement bushings.

None

NOTE

Cutter operations are piloted using undamaged installed bushings in adjacent lug sets. Repair one lug set completely before removing bushings from adjacent lug sets.

3. This WP is arranged into four sections: 1) Bushing Removal; 2) Reaming Lugs; 3) Bushing Installation; and 4) Reaming Bushings. Determine which bushing(s) is to be replaced, then go to each section for specific procedures.

5. INBOARD OR OUTBOARD WING FOLD TRANSMISSION LUG BUSHINGS.

a. Remove outer wing assembly (WP020 00).

NOTE

When any bushing in a lug set is damaged, all bushings in that lug set must be replaced.

If more than one lug set has damaged bushings, repair the lug sets in sequence, forward to aft, one lug set at a time.

In a triple tang lug set remove forward and aft tang bushings before removing middle bushing.

b. Assemble and install details of SPT46 bushing removal tool as applicable to match part configuration, views A or B.

4. BUSHING REMOVAL. See Figure 1.

Support Equipment Required

Part Number or
Type Designation

Nomenclature

RE274110000-1

Wing Transmission Lug
Bushing Tool Kit

c. Turn bolt (detail 6) clockwise until bushing is pushed into retainer (detail 3), views A or B.

d. Remove damaged bushing by turning bolt (detail 6) counterclockwise and removing details of SPT46 bushing removal tool.

e. Ream lugs with bushings removed per Reaming Lugs, this WP.

6. OUTER WING FRONT SPAR TRANSMISSION LUG BUSHINGS.

NOTE

If more than one lug set has damaged bushings, repair the lug sets in sequence, outboard to inboard, one lug set at a time.

a. Remove outboard leading edge flap (A1-F18AC-570-300, WP032 00).

b. Determine the lug set number(s) and tang number(s) to be repaired, view C.

c. Assemble and install details of SPT47 bushing removal tool as applicable to match part configuration, views D through J.

d. Turn bolt (detail 3 or 5) clockwise with wrench (detail 8) until bushing is pushed into retainer (detail 7), views D through J.

e. Remove damaged bushing by turning bolt (detail 3 or 5) counterclockwise and disassembling details of SPT47 bushing removal tool.

f. Ream lugs with bushings removed per Reaming Lugs, this WP.

7. OUTBOARD LEADING EDGE FLAP TRANSMISSION LUG BUSHINGS.

NOTE

If more than one lug set has damaged bushings, repair the lug sets in sequence, outboard to inboard, one lug set at a time.

a. Remove outboard leading edge flap (A1-F18AC-570-300, WP032 00).

b. Determine the lug set number(s) and tang number(s) to be repaired, view K.

c. Assemble and install details of SPT47 bushing removal tool as applicable to match part configuration, views L through N.

d. Turn bolt (detail 3 or 5) clockwise with wrench (detail 8) until bushing is pushed into retainer (detail 7), views L through N.

e. Remove damaged bushing by turning bolt (detail 3 or 5) counterclockwise and disassembling details of SPT47 bushing removal tool.

f. Ream lugs with bushings removed per Reaming Lugs, this WP.

8. INNER WING FRONT SPAR TRANSMISSION LUG BUSHINGS.

a. Remove inboard leading edge flap (A1-F18AC-570-300, WP028 00).

NOTE

When any bushing in a lug set is damaged, all bushings in that lug set must be replaced.

If more than one lug set has a damaged bushing, repair the lug sets in sequence, inboard to outboard, one lug set at a time.

b. Determine the lug set number(s) and tang number(s) to be repaired, view P.

c. For inner wing front spar tang numbers 1, 2, 3, 5, 6, 8, 9, 11, 12, 13:

(1) Assemble and install details of SPT48 bushing removal tool as applicable to match part configuration, views R through T.

(2) Turn bolt (detail 1) clockwise until bushing is pushed into retainer (detail 7 or 10), views R through T.

(3) Remove damaged bushing by turning bolt (detail 1) counterclockwise and disassembling details of SPT48 bushing removal tool.

d. For inner wing front spar tang number 4, 7, and 10:

NOTE

Spacer (detail 429) is not used as part of subassembly BE when removing bushing from tang number 10.

(1) Assemble and install details of subassembly BE bushing removal tool as applicable to match part configuration, view U. Use light pressure to expand wedges (details 454, 455, 463, and 464) of subassembly BE.

(2) Install ratchet wrench (detail 294) on end of removal tool (detail 300), view U.

(3) Turn removal tool (detail 300) clockwise and push damaged bushing out of lug and halfway through adjacent thin lug, view U.

(4) Disassemble and remove subassembly BE.



Protect surrounding structure from possible damage during cutting operations.

(5) Cut off exposed portion of bushing.

(6) Reinstall subassembly BE and remove remainder of bushing.

e. Ream lugs with bushings removed per Reaming Lugs, this WP.

9. INBOARD LEADING EDGE FLAP TRANSMISSION LUG BUSHINGS.

a. Remove inboard leading edge flap (A1-F18AC-570-300, WP028 00).

NOTE

When any bushing in a lug set is damaged, all bushings in that lug set must be replaced.

If more than one lug set has a damaged bushing, repair the lug sets in sequence, inboard to outboard, one lug set at a time.

b. Determine if the tang to be repaired is an inner/outer tang or a middle tang of the lug set, views V or W.

c. Assemble and install details of SPT48 bushing removal tool as applicable to match part configuration, views V or W.

d. Turn bolt (detail 4) clockwise until bushing is pushed into retainer (detail 7 or 10), views V or W.

e. Remove damaged bushing by turning bolt (detail 4) counterclockwise and disassembling details of SPT48 bushing removal tool.

f. Ream lugs with bushings removed per Reaming Lugs, this WP.

10. INNER WING FRONT SPAR INBOARD IDLER LUG BUSHINGS.

a. Remove inboard leading edge flap (A1-F18AC-570-300, WP028 00).

b. Determine if the bushing to be repaired is in the inboard or outboard tang, views X and Y.

c. Assemble and install details of subassembly A, B, C, or D bushing removal tool as applicable to match part configuration, views X and Y.

d. Turn bolt (detail 101, 106, 111 or 117) clockwise until bushing is pushed into retainer (detail 104, 109, 115, or 121), views X and Y.

e. Remove damaged bushing by turning bolt (detail 101, 106, 111, or 117) counterclockwise and removing details of subassembly A, B, C, or D bushing removal tool, views X and Y.

f. Ream lugs with bushings removed per Reaming Lugs, this WP.

11. OUTBOARD LEADING EDGE FLAP HINGE SUPPORT LUG BUSHINGS.

a. Remove outboard leading edge flap (A1-F18AC-570-300, WP032 00).

b. Assemble and install details of subassembly J bushing removal tool as applicable to match part configuration, view Z.

c. Turn bolt (detail 145) clockwise until bushing is pushed into retainer (detail 143), view Z.

d. Remove damaged bushing by turning bolt (detail 145) counterclockwise and removing details of subassembly J bushing removal tool, view Z.

e. Ream lug with bushings removed per Reaming Lugs, this WP.

12. INBOARD LEADING EDGE FLAP IDLER LUG BUSHINGS.

a. Remove inboard leading edge flap (A1-F18AC-570-300, WP028 00).

b. Determine if the bushing to be repaired is in the inboard or outboard tang, views AA and AB.

c. Assemble and install details of subassembly E, F, G, or H bushing removal tool as applicable to match part configuration, views AA and AB.

d. Turn bolt (detail 123, 128, 137 or 142) clockwise until bushing is pushed into retainer (detail 125, 129, 135, or 141), views AA and AB.

e. Remove damaged bushing by turning bolt (detail 123, 128, 137, or 142) counterclockwise and removing details of subassembly E, F, G, or H bushing removal tool, views AA and AB.

f. Ream lugs with bushings removed per Reaming Lugs, this WP.

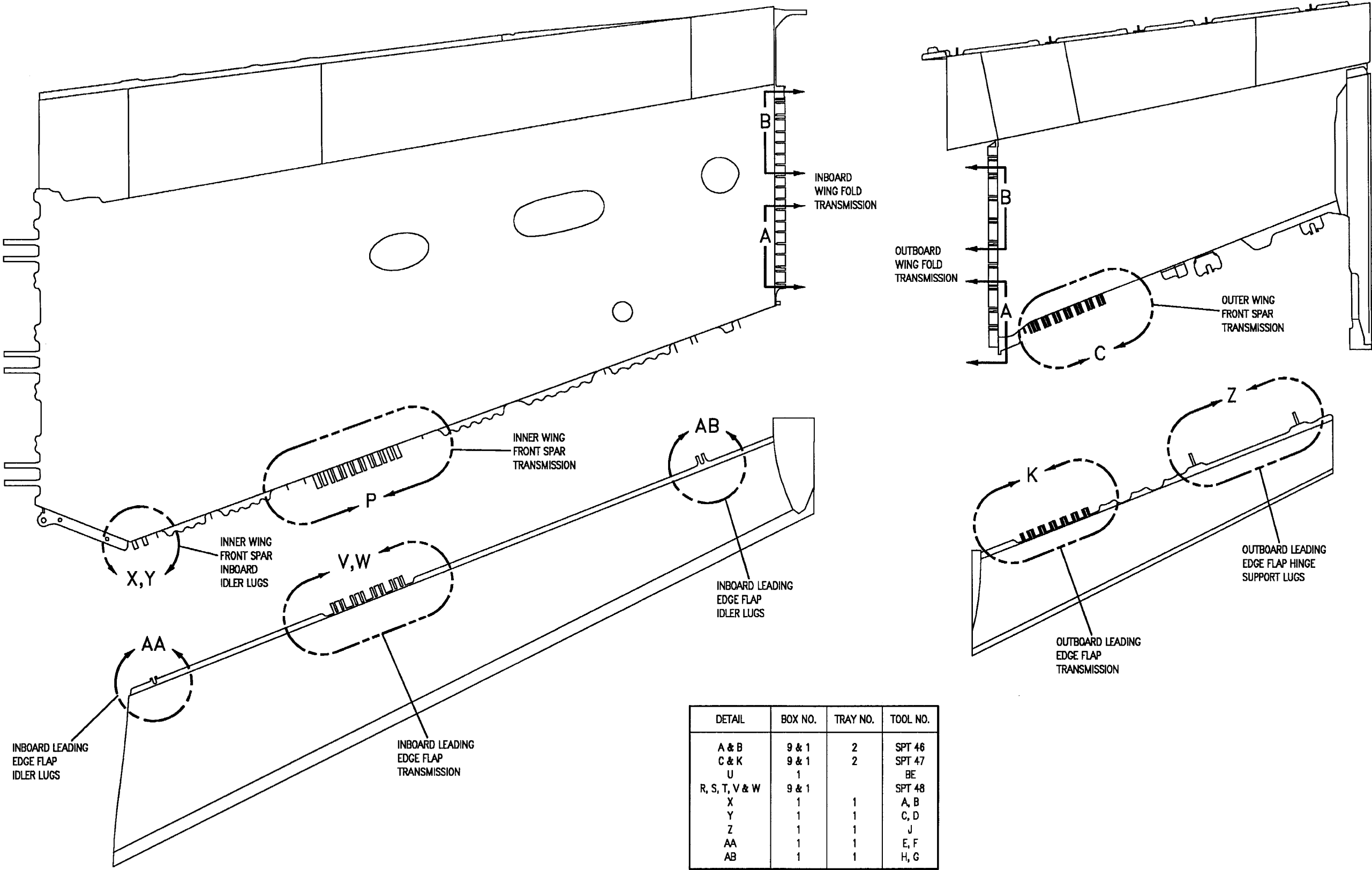
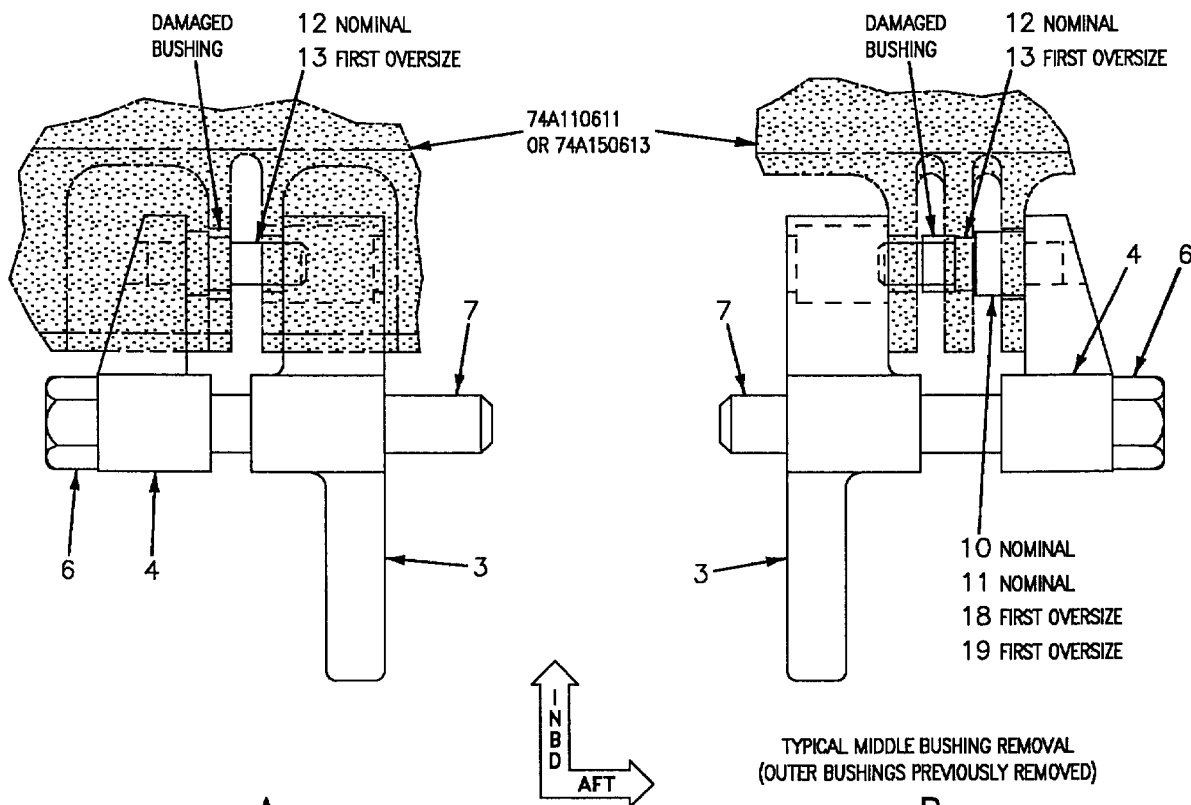
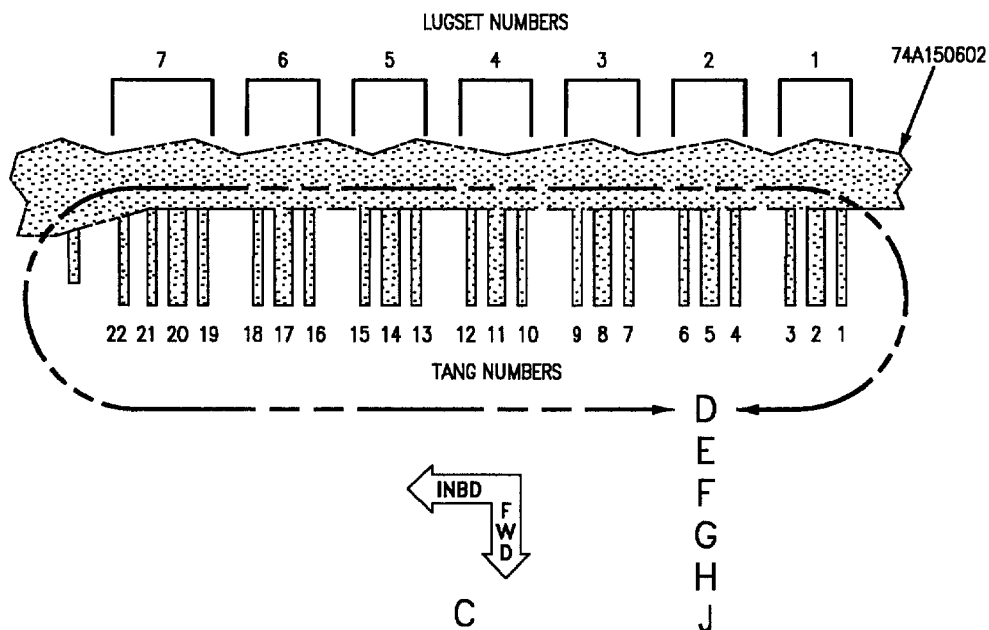


Figure 1. Bushing Removal (Sheet 1)



A
VIEW LOOKING DOWN
ALL DETAILS ARE PART OF SPT46RE274110000TD.

B
TYPICAL MIDDLE BUSHING REMOVAL
(OUTER BUSHINGS PREVIOUSLY REMOVED)
VIEW LOOKING DOWN
ALL DETAILS ARE PART OF SPT46RE274110000TD.



C
Figure 1. Bushing Removal (Sheet 2)

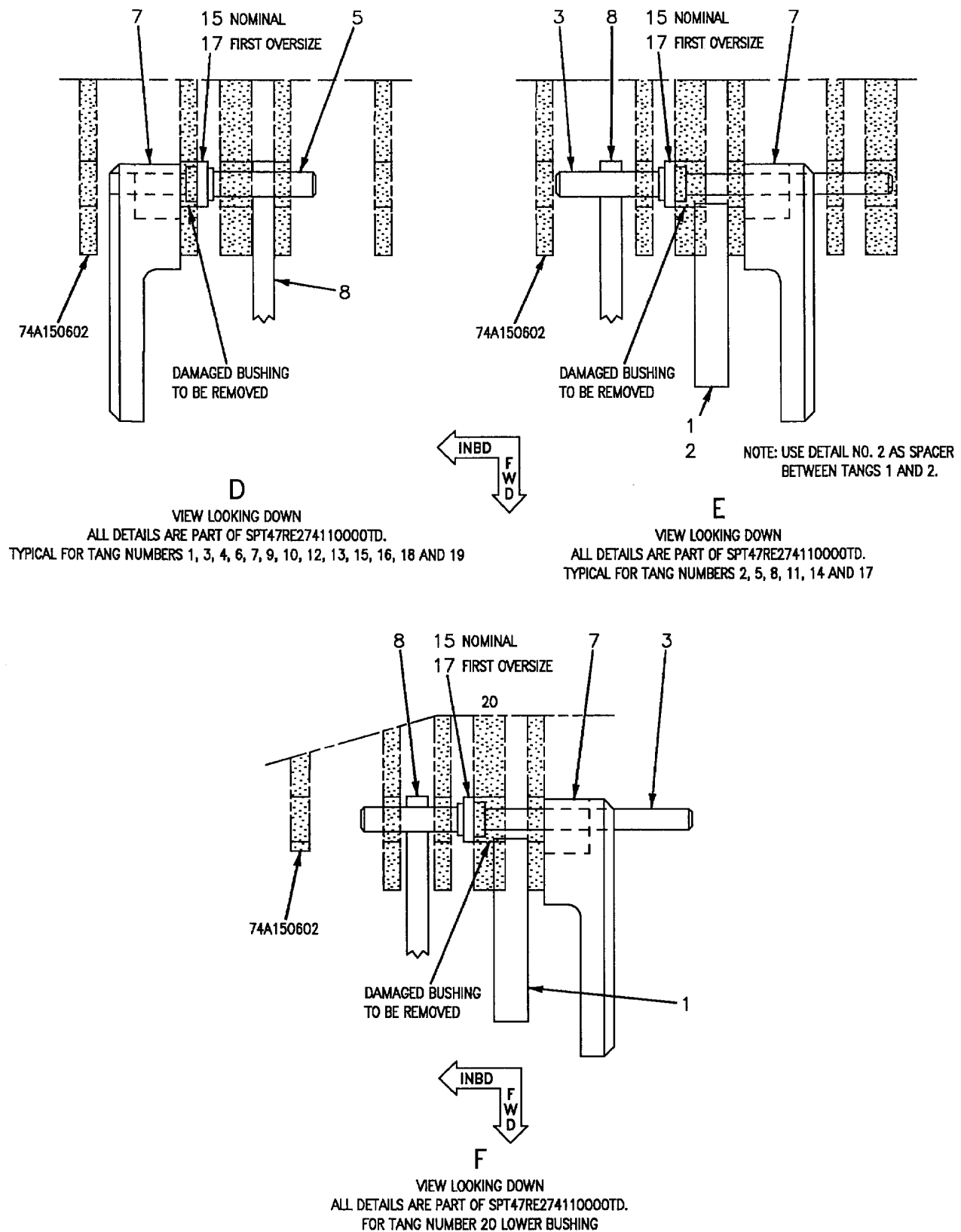
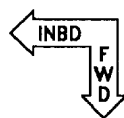
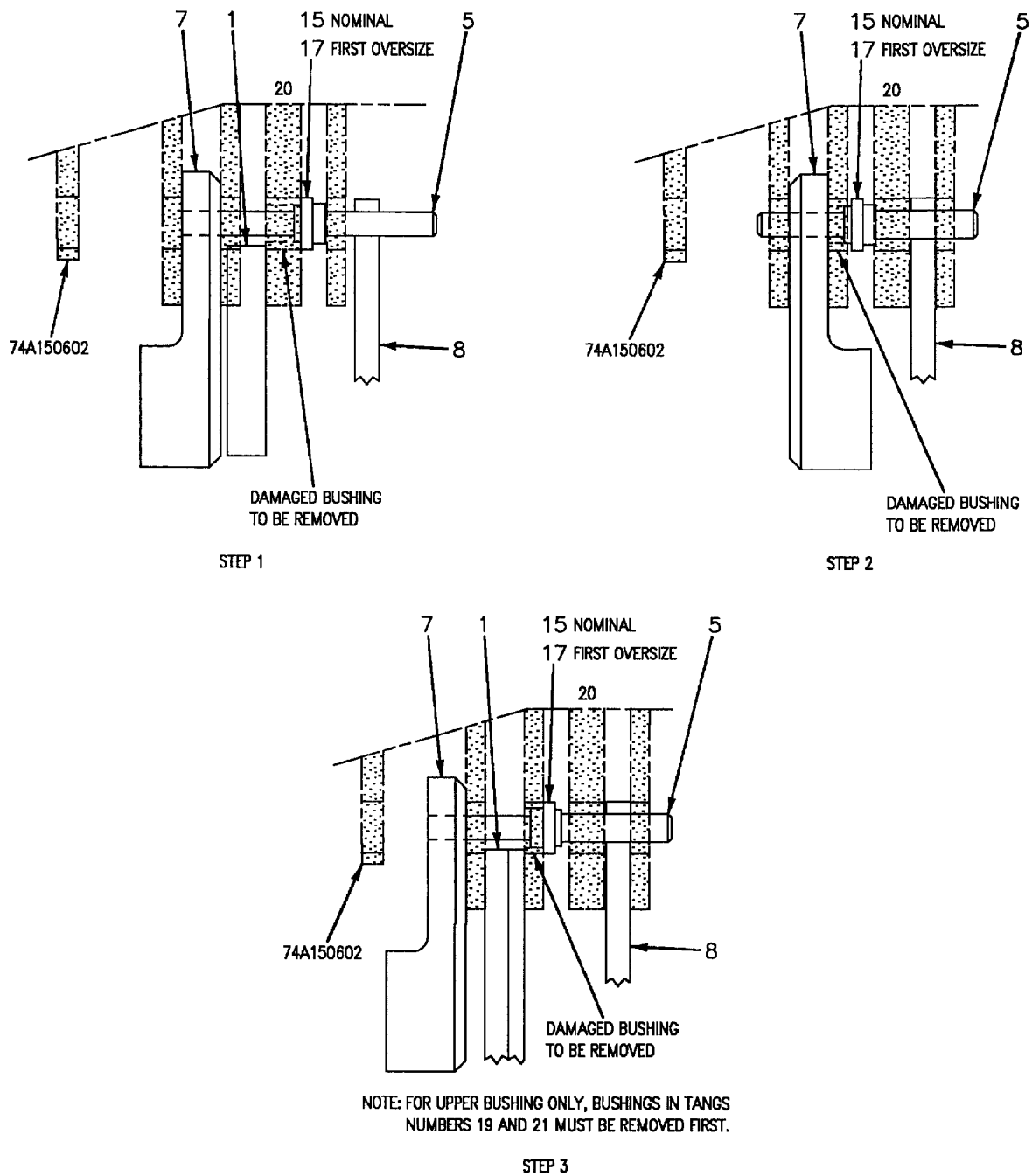


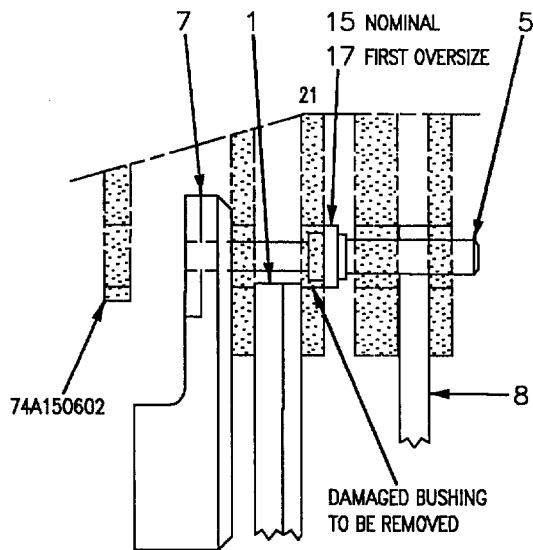
Figure 1. Bushing Removal (Sheet 3)



G

VIEW LOOKING DOWN
ALL DETAILS ARE PART OF SPT47RE274110000TD.

Figure 1. Bushing Removal (Sheet 4)

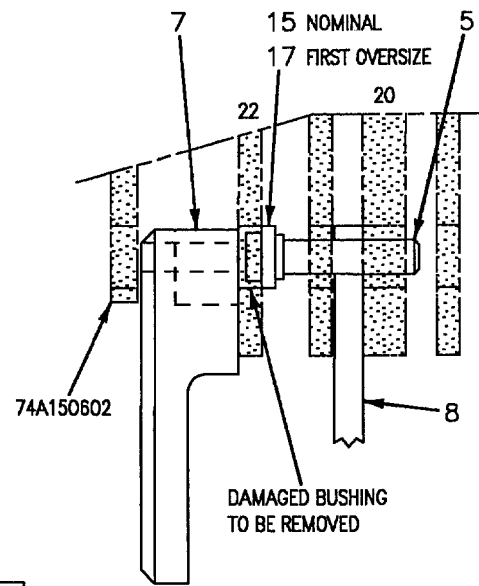


NOTE: FOR UPPER BUSHING TANG 21, REMOVE BUSHING IN TANGS 19 AND 20 FIRST.

H

VIEW LOOKING DOWN
FOR TANG NUMBER 21

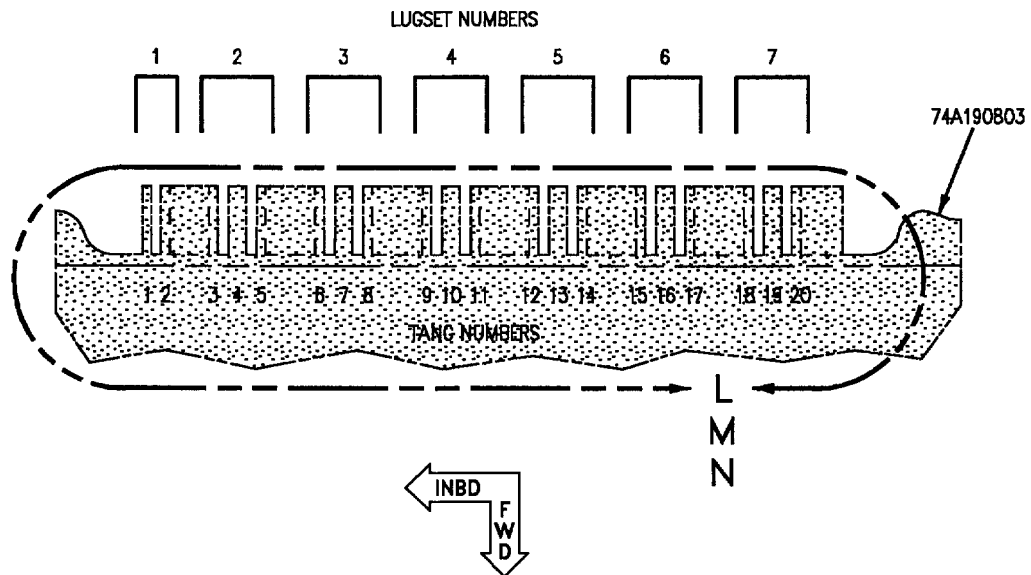
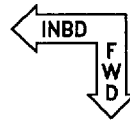
ALL DETAILS ARE PART OF SPT47RE274110000TD.



J

VIEW LOOKING DOWN
FOR TANG NUMBER 22

ALL DETAILS ARE PART OF SPT47RE274110000TD.



K

Figure 1. Bushing Removal (Sheet 5)

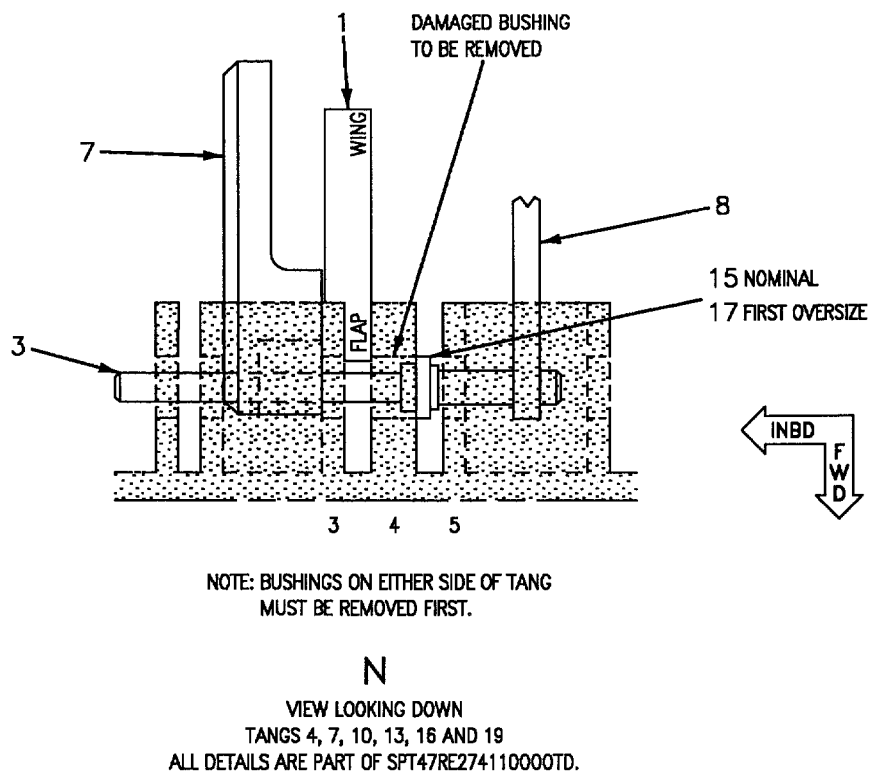
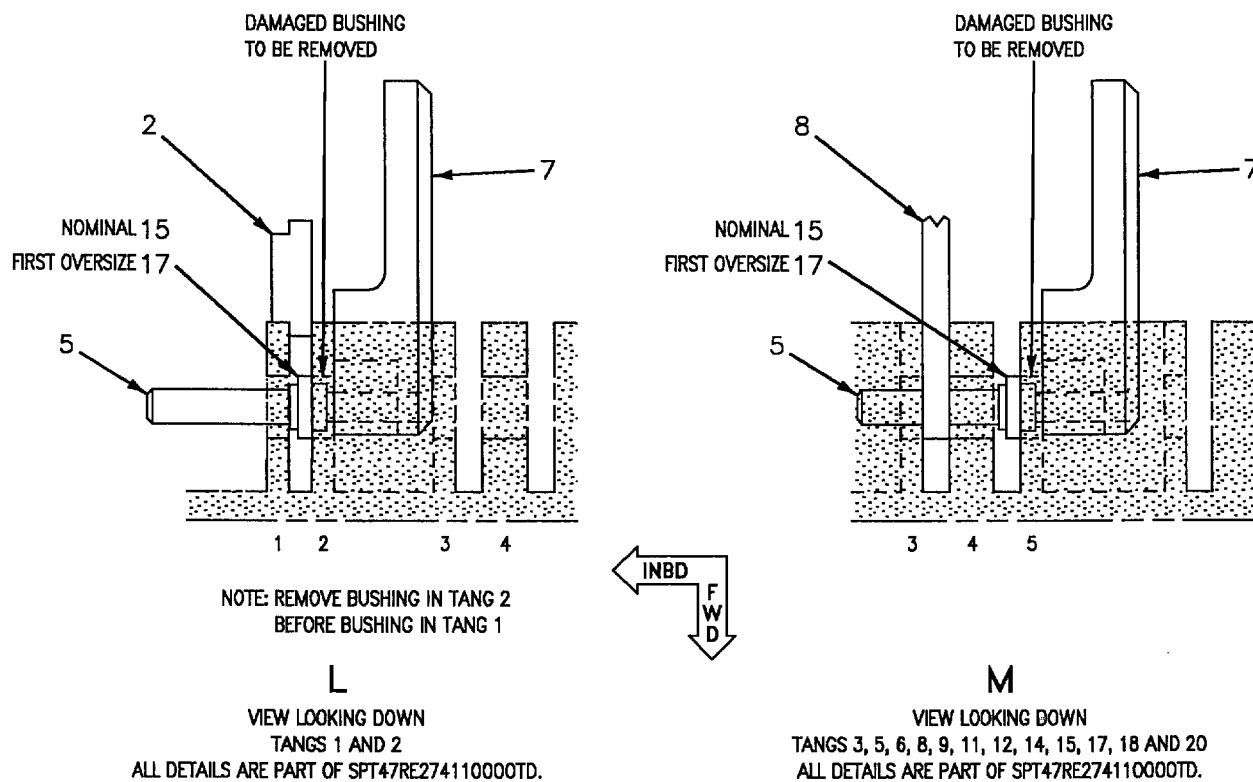


Figure 1. Bushing Removal (Sheet 6)

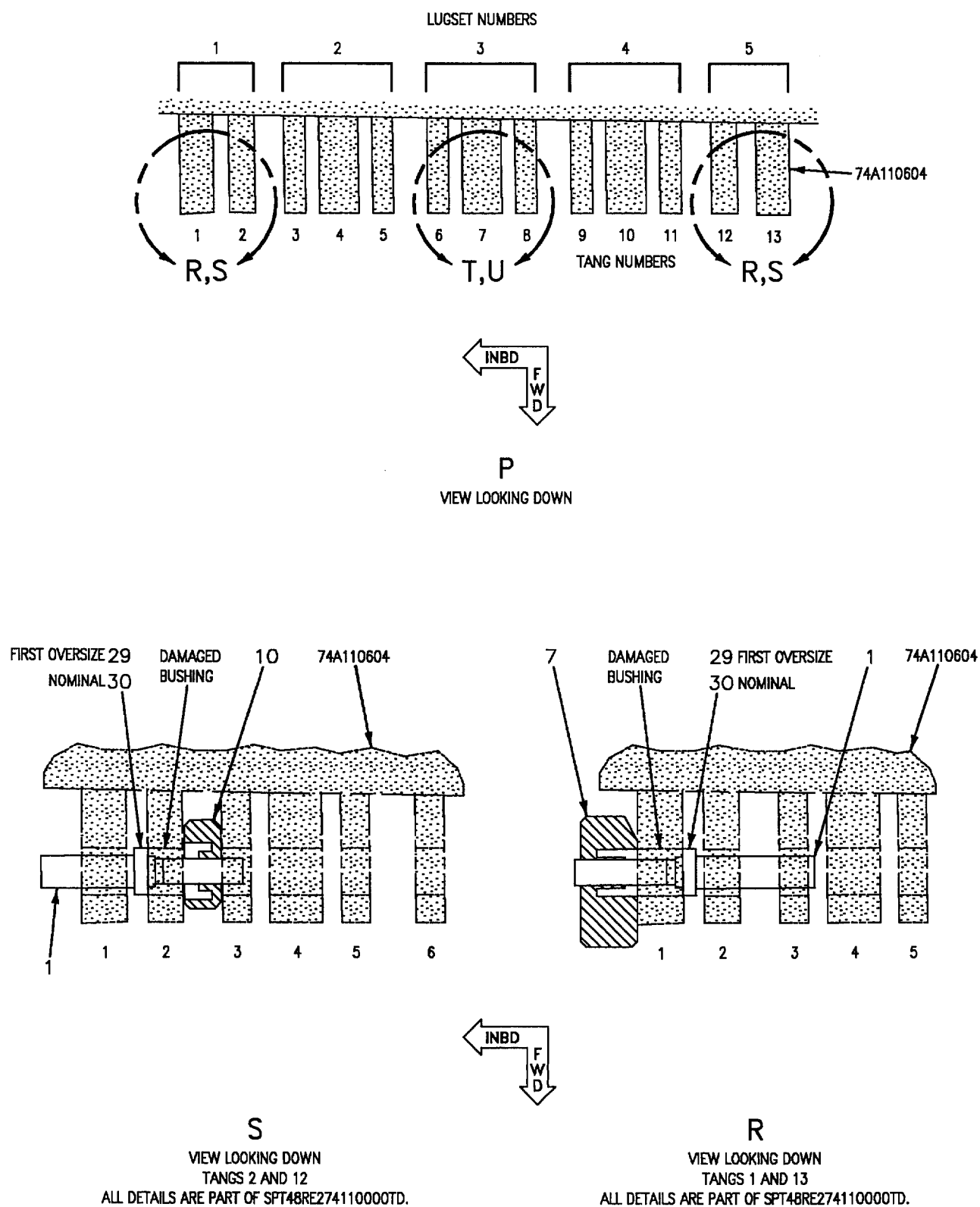


Figure 1. Bushing Removal (Sheet 7)

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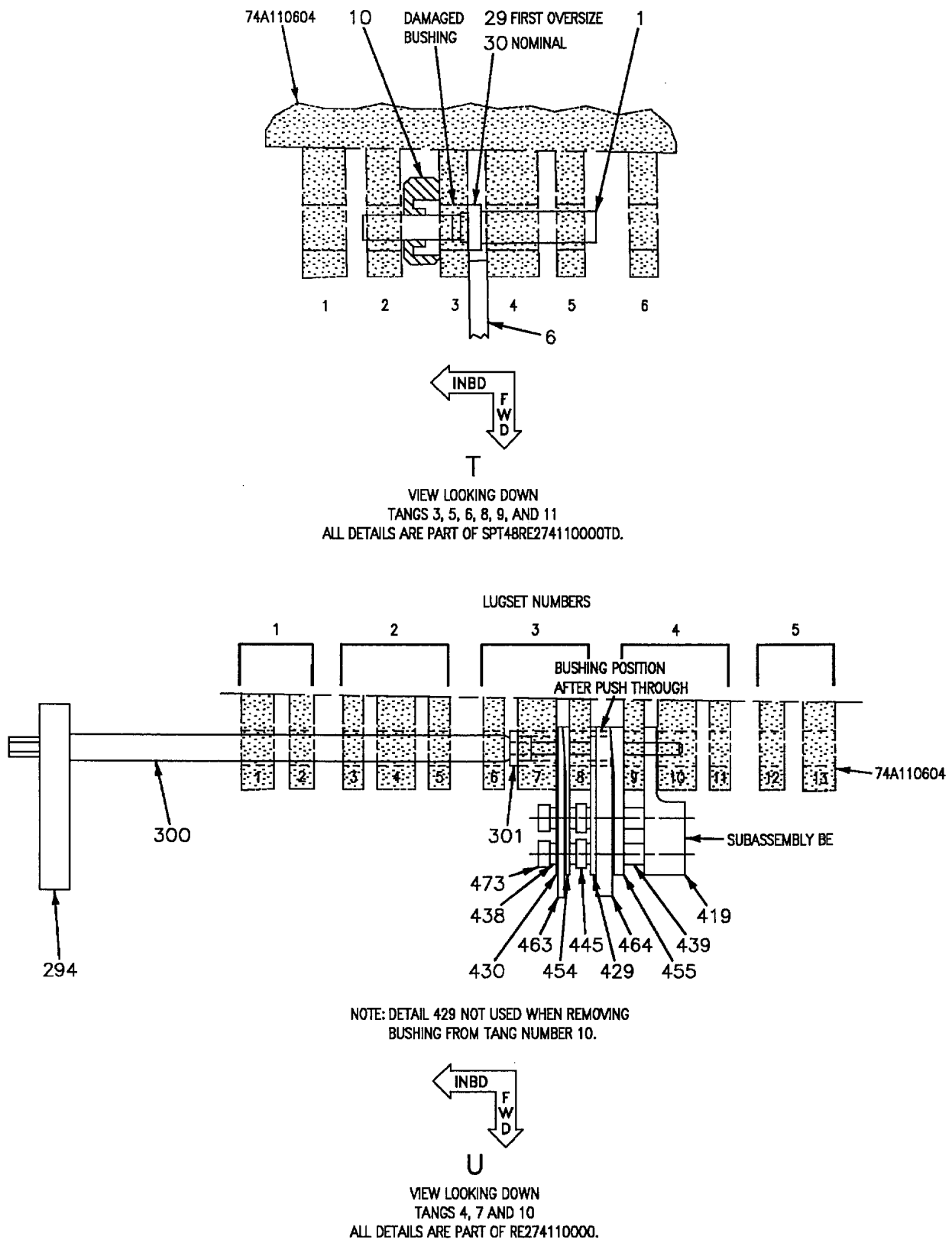


Figure 1. Bushing Removal (Sheet 8)

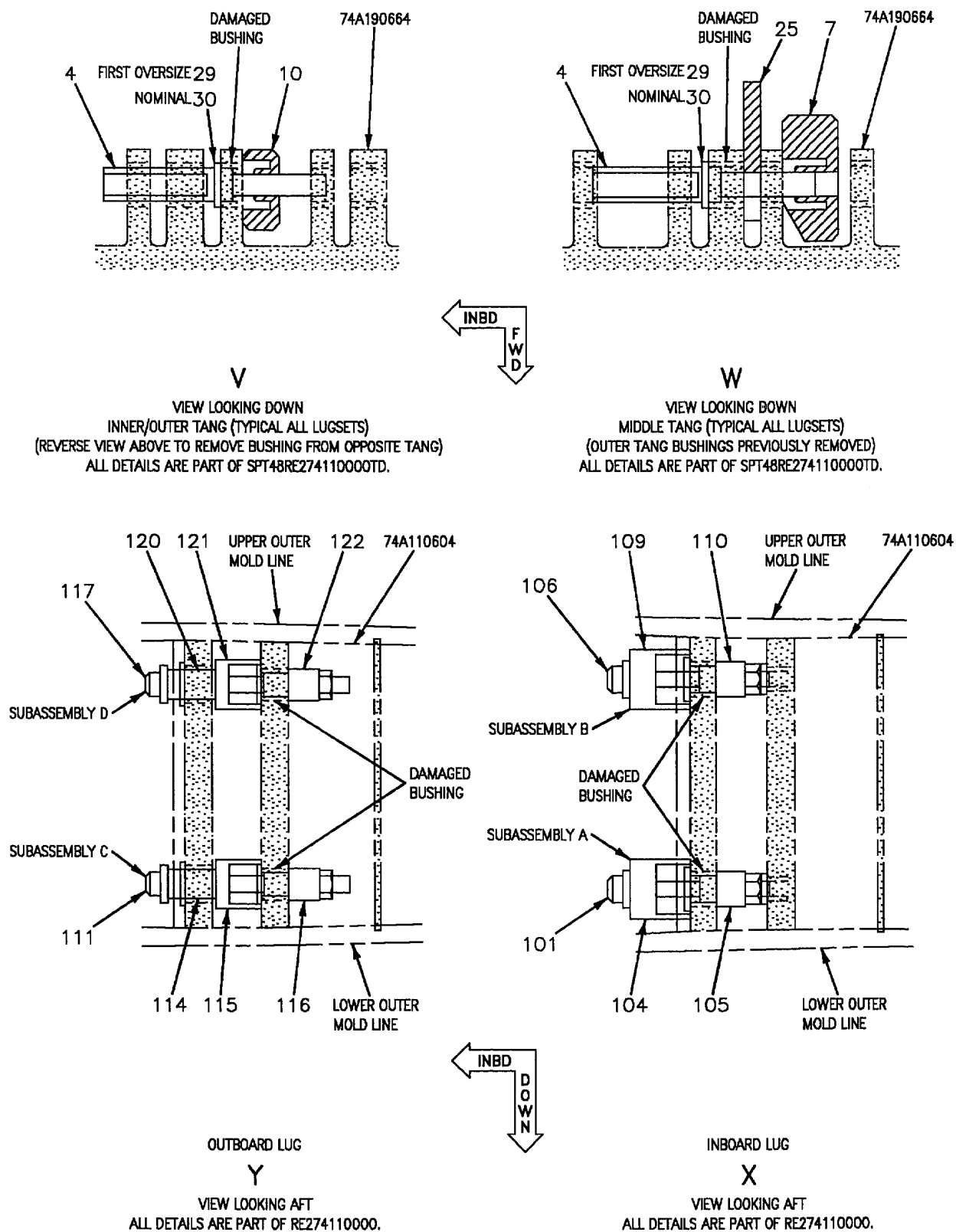


Figure 1. Bushing Removal (Sheet 9)

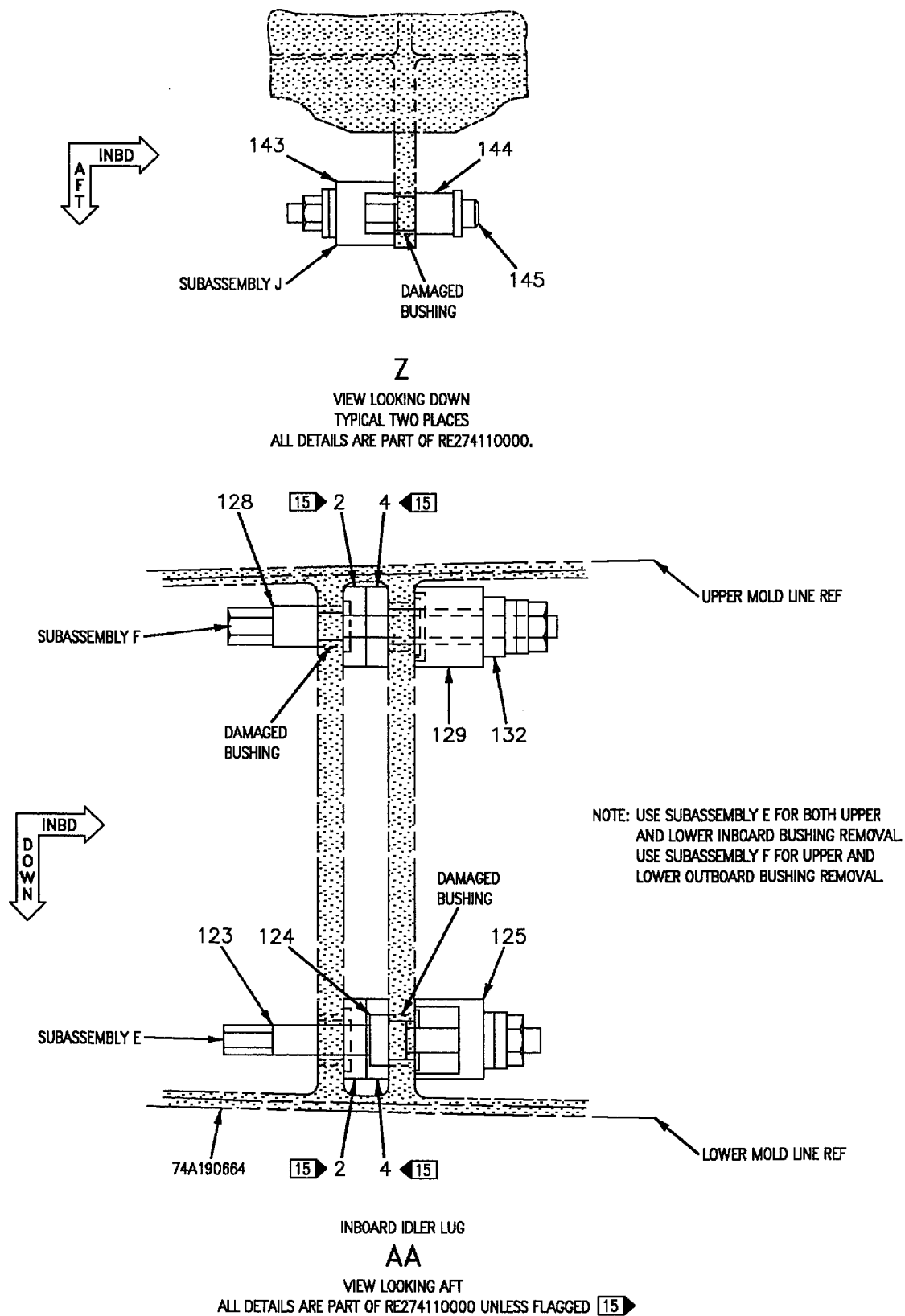


Figure 1. Bushing Removal (Sheet 10)

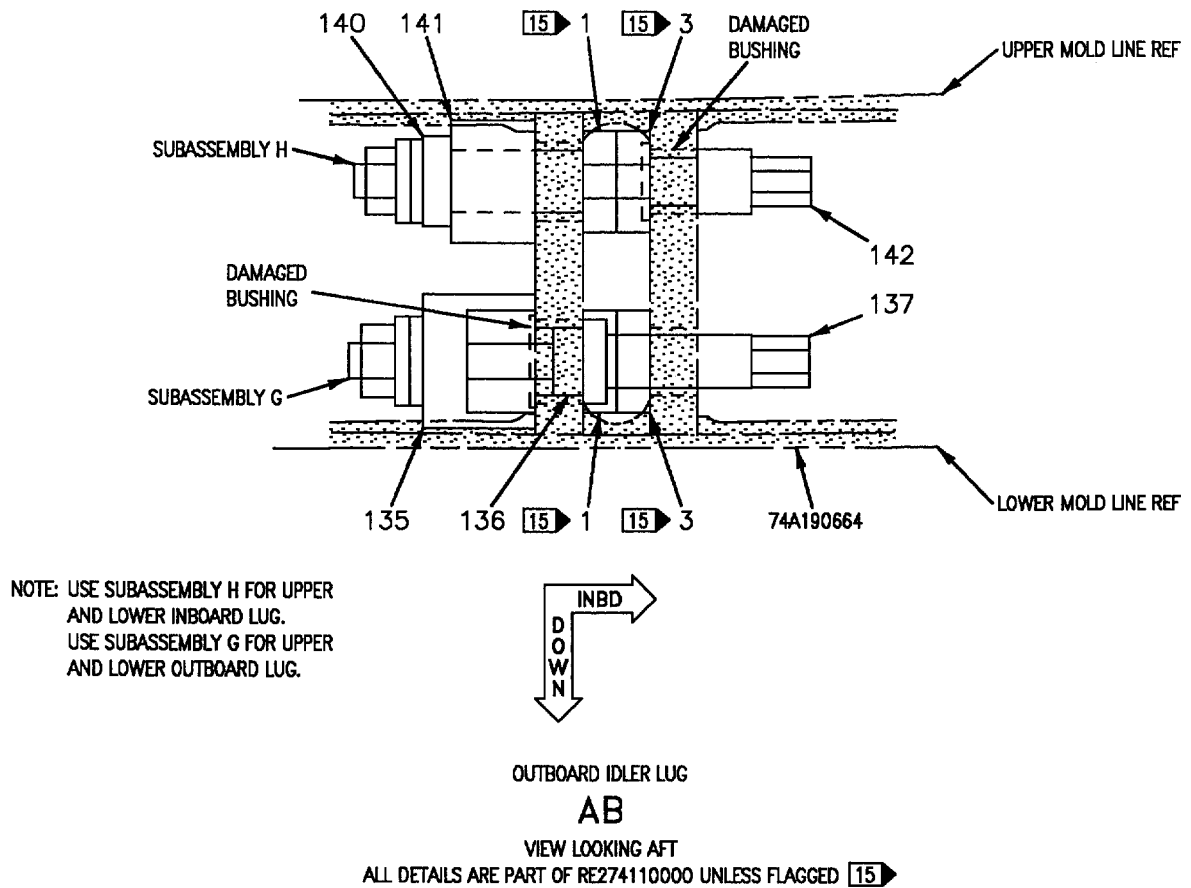


Figure 1. Bushing Removal (Sheet 11)



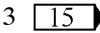

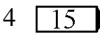











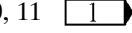

Detail No.	Name	Function	Box Location
Subassembly A, B, C, D	Bushing Removal Tool	Removes bushings from inner wing front spar inboard idler lugs.	1
Subassembly E, F, G, H	Bushing Removal Tool	Removes bushings from inboard leading edge flap idler lugs.	1
Subassembly J	Bushing Removal Tool	Removes bushings from outboard leading edge flap hinge support lugs.	1
Subassembly BE	Bushing Removal Tool	Removes bushings from inner wing front spar transmission lugs.	1
1 	Spacer Plate	Provide support between tangs.	1 or 9
1 	Bolt	Provides pressure to anvil to force bushing from wing.	1 or 9
1, 3 	Spacer Plate	Provide support between lugs.	6
2 	Spacer Plate	Provide support between tangs 1 and 2.	1 or 9
2, 4 	Spacer Plate	Provide support between lugs.	6
3 	Retainer	Provides alignment and detent for bushing removal.	1 or 9
3 	Bolt	Provides pressure to force out bushing.	1 or 9
4 	Block	Retains anvil.	1 or 9
4 	Bolt	Provides pressure to anvil to force bushing from flap.	1 or 9
5 	Bolt	Provides pressure to anvil to force out bushing.	1 or 9
6 	Bolt	Used to push bushings out of lugs.	1 or 9
6 	Spacer Plate	Provides support between tangs of transmission lugs.	1 or 9
7 	Guide Pin	Guides moving part of SPT46 during bushing removal.	1 or 9
7 	Retainer	Provides alignment and detent for bushing removal.	1 or 9
7 	Retainer	Provides alignment and detent for bushing removal.	1 or 9
8 	Wrench	Turns bolts to push bushings out of lugs.	1 or 9
10, 11 	Anvil	Presses nominal bushing from middle wing fold rib lug.	1 or 9
10 	Retainer	Provides alignment and detent for bushing removal	1 or 9

Figure 1. Bushing Removal (Sheet 12)

























Detail No.	Name	Function	Box Location
12 	Anvil	Presses nominal bushing from wing fold rib lug.	1 or 9
13 	Anvil	Presses oversize bushing from wing fold rib lug.	1 or 9
15 	Anvil	Press nominal bushing from lug.	1 or 9
17 	Anvil	Press oversize bushing from lug.	1 or 9
18, 19 	Anvil	Presses oversize bushings from middle wing fold rib lug.	1 or 9
29 	Anvil	Presses bushing from oversize lug.	1 or 9
30 	Anvil	Presses bushing from nominal lug.	1 or 9
25 	Spacer Plate	Provides support between tangs.	1 or 9
101 	Bolt	Provide pressure to damaged bushing for removal.	1
104 	Retainer	Provides alignment and detent for bushing.	1
105 	Anvil	Press bushing from tang.	1
106 	Bolt	Provides pressure to damaged bushing for removal.	1
109 	Retainer	Provides alignment and detent for removal bushing.	1
110 	Anvil	Press bushing from tang.	1
111 	Bolt	Provides pressure to damaged bushing for removal.	1
114 	Spacer	Extends access to detail 111.	1
115 	Retainer	Provides alignment and detent for removed bushing.	1
116 	Anvil	Press bushing from tang.	1
117 	Bolt	Provides pressure to damaged bushing for removal.	1
120 	Spacer	Extends access to detail 117.	1
121 	Retainer	Provides alignment and detent for removal of bushing.	1
122 	Anvil	Press bushing from tang.	1
123 	Bolt	Provides pressure to damaged bushing for removal.	1
124 	Anvil	Press bushing from tang.	1

Figure 1. Bushing Removal (Sheet 13)






















Detail No.	Name	Function	Box Location
125 	Retainer	Provides alignment and detent for removal of bushing.	1
128 	Bolt	Provides alignment and detent for removal of bushing.	1
129 	Retainer	Provides alignment for subassembly F.	1
132 	Spacer	Locates bolt at correct position.	1
135 	Retainer	Provide alignment for detail 137 and detent for bushing removal.	1
136 	Anvil	Press bushing from lug.	1
137 	Bolt	Provides pressure to damaged bushing for removal.	1
140 	Spacer	Locates bolt at correct position.	1
141 	Retainer	Provide alignment for detail 142.	1
142 	Bolt	Provides pressure to damaged bushing for removal.	1
143 	Retainer	Provides alignment and detent for bushing.	1
144 	Anvil	Presses bushing from tang.	1
145 	Bolt	Provides pressure to damaged bushing for removal.	1
294	Ratchet Wrench	Turns details to press out bushings.	1 or 9
300	Extention Rod	Used to extend detail 301 to damaged tang bushing.	1
301	Anvil	Presses bushing from lug.	1
419 	Alignment Block	Alignment details of subassembly BE.	1
429  	Spacer Plate	Provides support between tang.	1
430 	Spacer Plate	Provides support between tang.	1
438 	Spacer	Extends access to detail 117.	1
439 	Spacer Plate	Provides alignment and detent for removal of bushing.	1
445 	Anvil	Separate spacer plates to fit tang configuration.	1
454 	Wedge	Provides support between tang.	1

Figure 1. Bushing Removal (Sheet 14)




















Detail No.	Name	Function	Box Location
455 	Wedge	Provides support between tang.	1
463 	Wedge	Provides support between tang.	1
464 	Wedge	Provides support between tang.	1
473 	Screw	Provides pressure to hold subassembly BE in place during bushing removal.	1
<p style="text-align: center;">LEGEND</p> <p> Detail of SPT46RE274110000TD.</p> <p> Detail of SPT47RE274110000TD.</p> <p> Detail of SPT48RE274110000TD.</p> <p> Detail of subassembly A.</p> <p> Detail of subassembly B.</p> <p> Detail of subassembly C.</p> <p> Detail of subassembly D.</p> <p> Detail of subassembly E.</p> <p> Detail of subassembly F.</p> <p> Detail of subassembly G.</p> <p> Detail of subassembly H.</p> <p> Detail of subassembly BE</p> <p> Not used for tang 10 bushing removal.</p> <p> Detail of subassembly J.</p> <p> Detail of SPT69RE274110000TD.</p>			

Figure 1. Bushing Removal (Sheet 15)

13. REAMING LUGS. See figure 2.

Support Equipment Required

Part Number or Type Designation	Nomenclature
RE274110000-1	Wing Transmission Lug Bushing Tool Kit

Materials Required

Specification or Part Number	Nomenclature
Isopar M	Coolant, Cutting Fluid

NOTE

During reaming operation, clean cutter flutes after each 1/16th of an inch of travel.

Cutter operations are piloted using undamaged installed bushings in adjacent lug sets. Repair one lug set completely before removing bushings from adjacent lug sets.

14. INBOARD OR OUTBOARD WING FOLD TRANSMISSION LUGS.

a. Remove damaged bushings per Bushing Removal, this WP.

NOTE

If more than one lug set has damaged bushings, repair the lug sets in sequence, forward to aft, one lug set at a time.

b. For inboard wing fold lugs:

- (1) Determine lug set number to be repaired, view A.
- (2) Assemble and install details of tool kit as applicable to match part configuration, views B through G.



Make sure cutter flutes do not contact adjacent lug set after reamer exits last lug to be reamed or damage to the lug set could occur.

NOTE

Remove and replace cutter between lug sets for change or removal.

(4) Ream lugs by turning cutter clockwise using wrench (detail 294) while pushing aft. Ream lugs to applicable hole size, views B through G.

(5) Remove details of tool kit from wing fold lugs.

(6) Install replacement bushings per Bushing Installation, this WP.

c. For outboard wing fold lugs:

(1) Determine lug set number to be repaired, view H.

(2) Assemble and install details of tool kit as applicable to match part configuration, views J through N.



Coolant, Isopar M

32

(3) Brush apply a light coat of cutting fluid to cutter.



Make sure cutter flutes do not contact adjacent lug set after reamer exits last lug to be reamed or damage to the lugset could occur.

NOTE

Remove and replace cutter between lug sets for change or removal.

(4) Ream lugs by turning cutter clockwise using wrench (detail 294) while pushing aft. Ream lugs to applicable hole size, views J through N.



Coolant, Isopar M

32

(3) Brush apply a light coat of cutting fluid to cutter.

(5) Remove details of tool kit from wing fold lugs.

(6) Install replacement bushings per Bushing Installation, this WP.

15. OUTER WING FRONT SPAR TRANSMISSION LUGS.

a. Remove damaged bushings per Bushing Removal, this WP.

NOTE

If more than one lug set has damaged bushings, repair the lug sets in sequence, outboard to inboard, one lug set at a time.

b. Determine lug set number to be repaired, view P.

c. Assemble and install details of tool kit as applicable to match part configuration, views R through T.



Coolant, Isopar M

32

d. Brush apply a light coat of cutting fluid to cutter.



Make sure cutter flutes do not contact adjacent lug set after reamer exits last lug to be reamed or damage to the lugset could occur.

NOTE

Remove and replace cutter between lug sets for change or removal.

e. Ream lugs by turning cutter clockwise using wrench (detail 294) while pushing inboard. Ream lugs to applicable hole size, views R through T.

f. Remove details of tool kit from spar lugs.

g. Install replacement bushings per Bushing Installation, this WP.

16. OUTBOARD LEADING EDGE FLAP TRANSMISSION LUGS.

a. Remove damaged bushings per Bushing Removal, this WP.

NOTE

If more than one lug set has damaged bushings, repair the lug sets in sequence, outboard to inboard, one lug set at a time.

b. Determine lug set number to be repaired, view U.

c. Assemble and install details of tool kit as applicable to match part configuration, views V through Y.



Coolant, Isopar M

32

d. Brush apply a light coat of cutting fluid to cutter.



Make sure cutter flutes do not contact adjacent lug set after reamer exits last lug to be reamed or damage to the lug set could occur.

NOTE

Remove and replace cutter between lug sets for change or removal.

e. Ream lugs by turning cutter clockwise using wrench (detail 294) while pushing inboard. Ream lugs to applicable hole size, views V through Y.

f. Remove details of tool kit from flap lugs.

g. Install replacement bushings per Bushing Installation, this WP.

17. INNER WING FRONT SPAR TRANSMISSION LUGS.

a. Remove damaged bushings per Bushing Removal, this WP.

NOTE

If more than one lug set has damaged bushings, repair the lug sets in sequence, inboard to outboard, one lug set at a time.

b. Determine lug set number to be repaired, view Z.

c. Assemble and install details of tool kit as applicable to match part configuration, views AA through AE.



Coolant, Isopar M



32

d. Brush apply a light coat of cutting fluid to cutter.



Make sure cutter flutes do not contact adjacent lug set after reamer exits last lug to be reamed or damage to the lug set could occur.

NOTE

Remove and replace cutter between lug sets for change or removal.

e. Ream lugs by turning cutter using wrench (detail 294). Ream lugs to applicable hole size, views AA through AE.

f. Remove details of tool kit from spar lugs.

g. Install replacement bushings per Bushing Installation, this WP.

18. INBOARD LEADING EDGE FLAP TRANSMISSION LUGS.

a. Remove damaged bushings per Bushing Removal, this WP.

NOTE

If more than one lug set has damaged bushings, repair the lug sets in sequence, inboard to outboard, one lug set at a time.

b. Determine lug set number to be repaired, view AF.

c. Assemble and install details of tool kit as applicable to match part configuration, views AG through AK.



Coolant, Isopar M



32

d. Brush apply a light coat of cutting fluid to cutter.



Make sure cutter flutes do not contact adjacent lug set after reamer exits last lug to be reamed or damage to the lug set could occur.

NOTE

Remove and replace cutter between lug sets for change or removal.

e. Ream lugs by turning cutter clockwise using wrench (detail 294) while pushing outboard. Ream lugs to applicable hole size, views AG through AK.

f. Remove details of tool kit from flap spar lugs.

g. Install replacement bushings per Bushing Installation, this WP.

19. INNER WING FRONT SPAR IDLER LUGS.

a. Remove damaged bushings per Bushing Removal, this WP.

b. Determine lug set number to be repaired, views AL, AM, AN, and AP.

c. Assemble and install details of tool kit as applicable to match part configuration, views AL through AP.

d. Tighten hand knob (detail 208) to secure subassembly to lug, views AL through AP.



Coolant, Isopar M

32

e. Brush apply a light coat of cutting fluid to cutter.



Make sure cutter flutes do not contact adjacent lug set after reamer exits last lug to be reamed or damage to the lug set could occur.

NOTE

Remove and replace cutter between lug sets for change or removal.

f. Ream lugs by turning cutter clockwise using wrench (detail 294) while pushing outboard. Ream lugs to applicable hole size, views AL through AP.

g. Remove details of tool kit from front spar idler lugs.

h. Install replacement bushings per Bushing Installation, this WP.

20. OUTBOARD LEADING EDGE FLAP HINGE SUPPORT LUGS.

a. Remove damaged bushings per Bushing Removal, this WP.

b. Determine lug set number to be repaired, view AR.

c. Assemble and install details of tool kit as applicable to match part configuration, view AR.



Coolant, Isopar M

32

d. Brush apply a light coat of cutting fluid to cutter.

e. Ream lugs by turning cutter clockwise using wrench (detail 294). Ream lugs to applicable hole size, view AR.

f. Remove details of tool kit from flap idler lugs.

g. Install replacement bushings per Bushing Installation, this WP.

21. INBOARD LEADING EDGE FLAP IDLER LUGS.

a. Remove damaged bushings per Bushing Removal, this WP.

b. Determine lug set number to be repaired, view AS, AT, AU, and AV.

c. Assemble and install details of tool kit as applicable to match part configuration, views AS through AV.



Coolant, Isopar M

32

d. Brush apply a light coat of cutting fluid to cutter.



Make sure cutter flutes do not contact adjacent lug set after reamer exits last lug to be reamed or damage to the lug set could occur.

NOTE

Remove and replace cutter between lug sets for change or removal.

e. Ream lugs by turning cutter clockwise using wrench (detail 294). Ream lugs to applicable hole size, views AS through AV.

f. Remove details of tool kit from flap idler lugs.

g. Install replacement bushings per Bushing Installation, this WP.

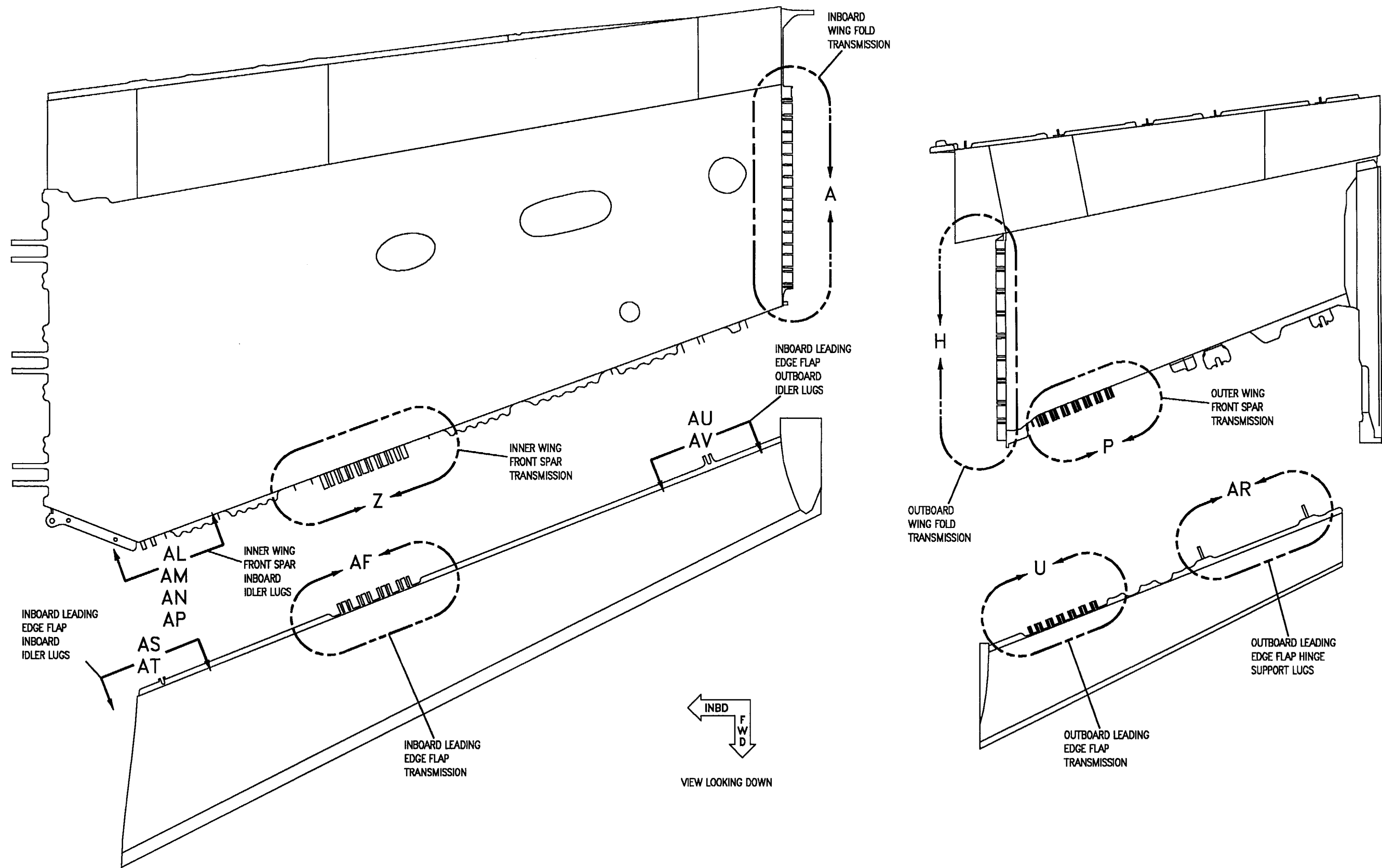
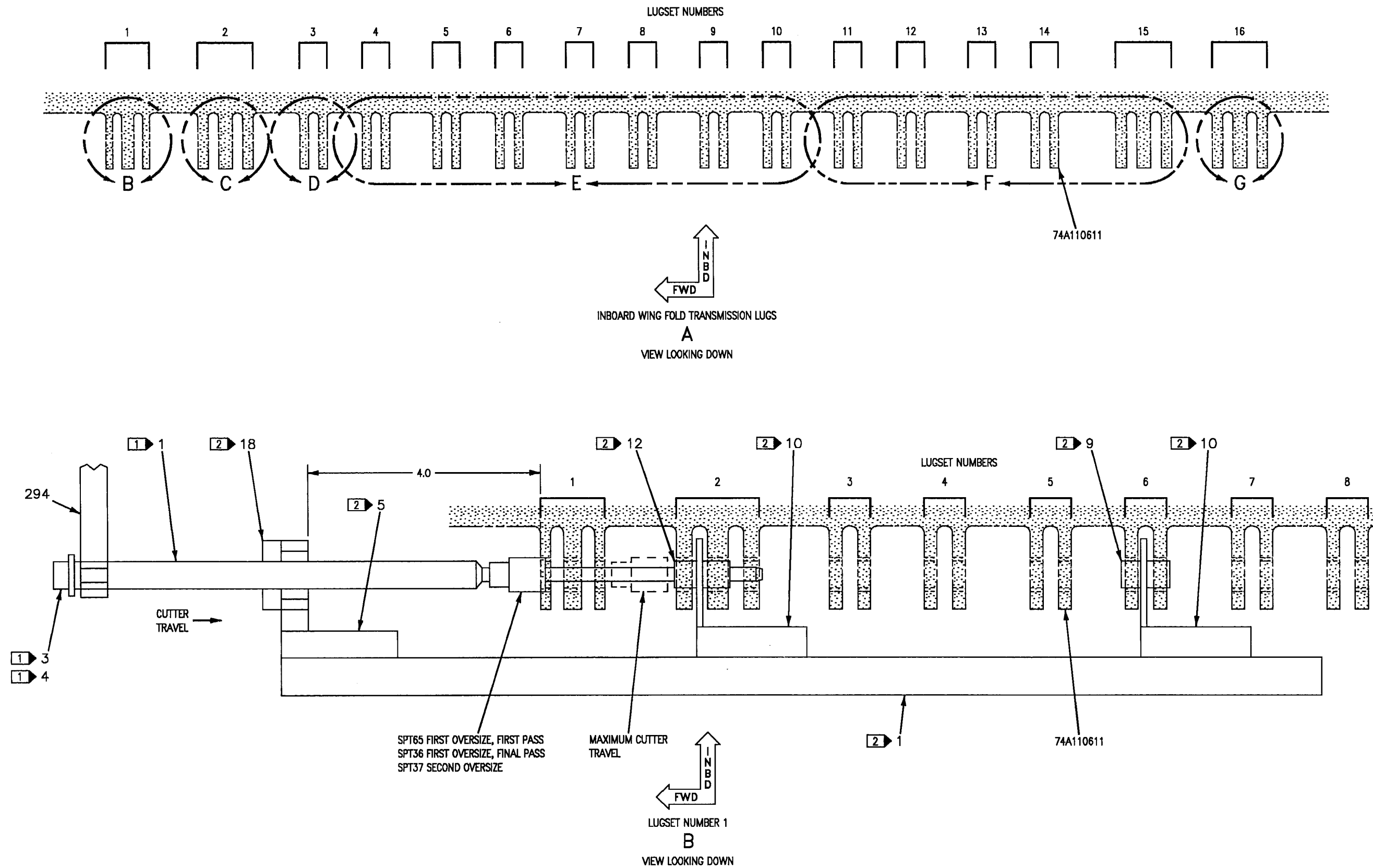


Figure 2. Reaming Lugs (Sheet 1)



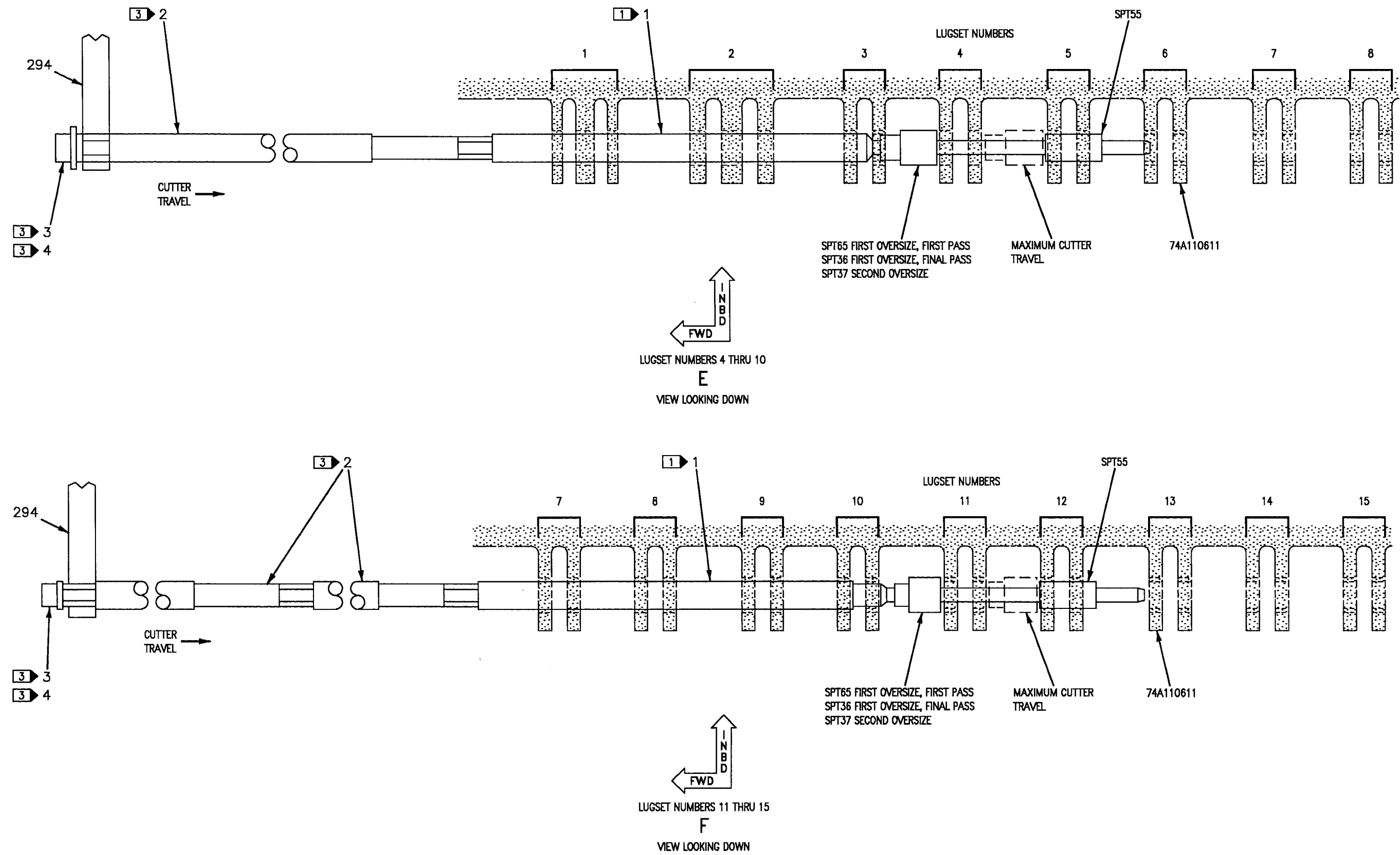


Figure 2. Reaming Lugs (Sheet 4)

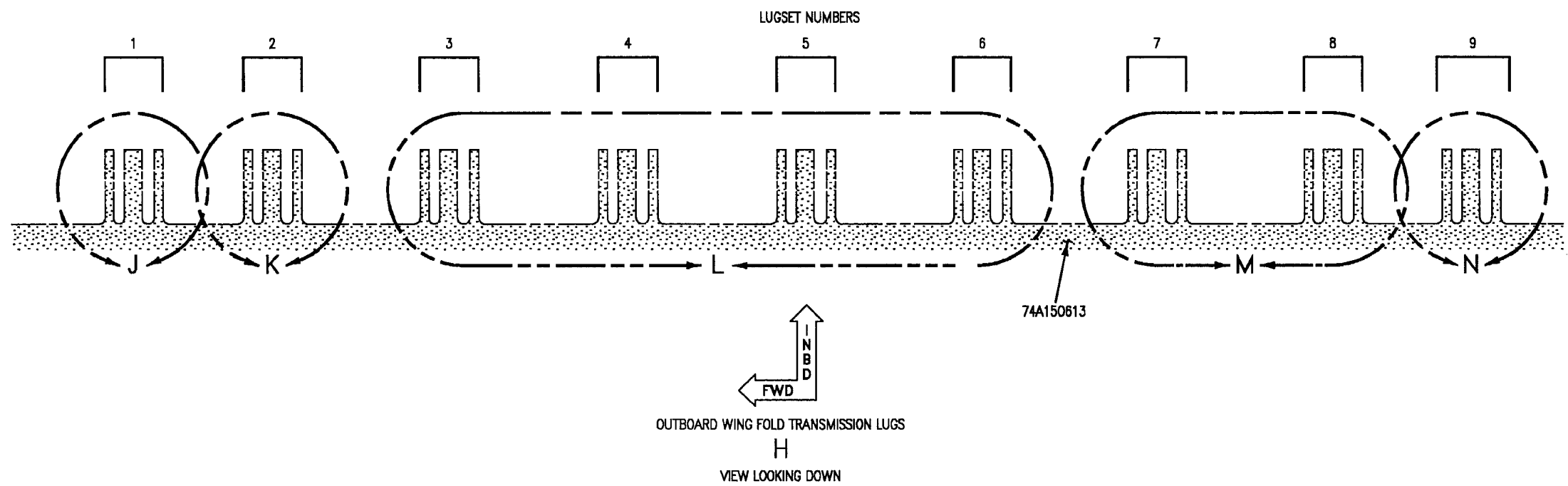
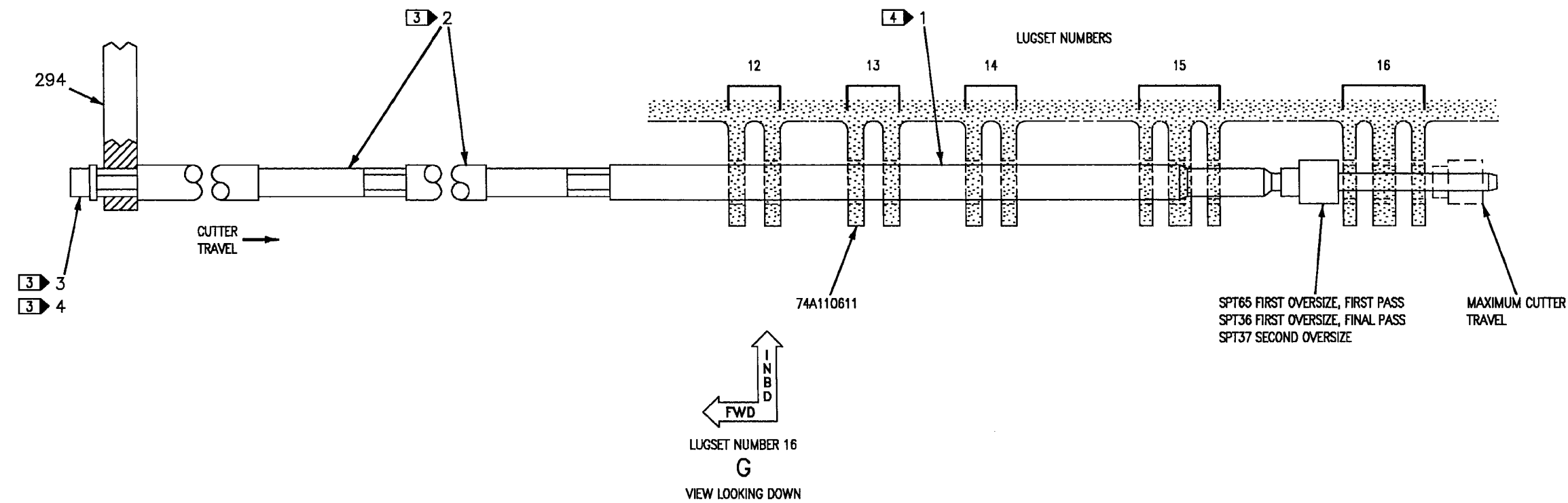


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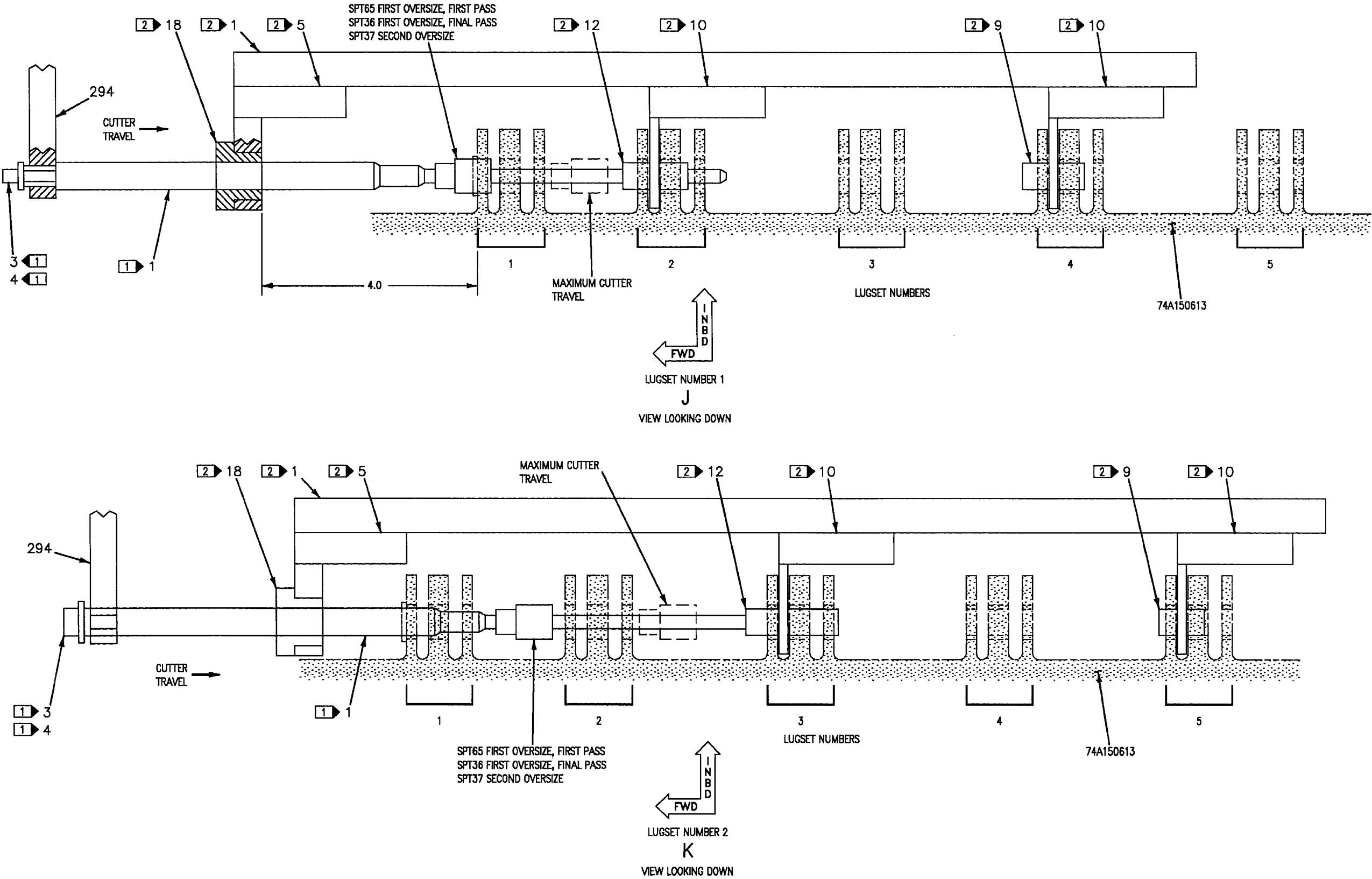


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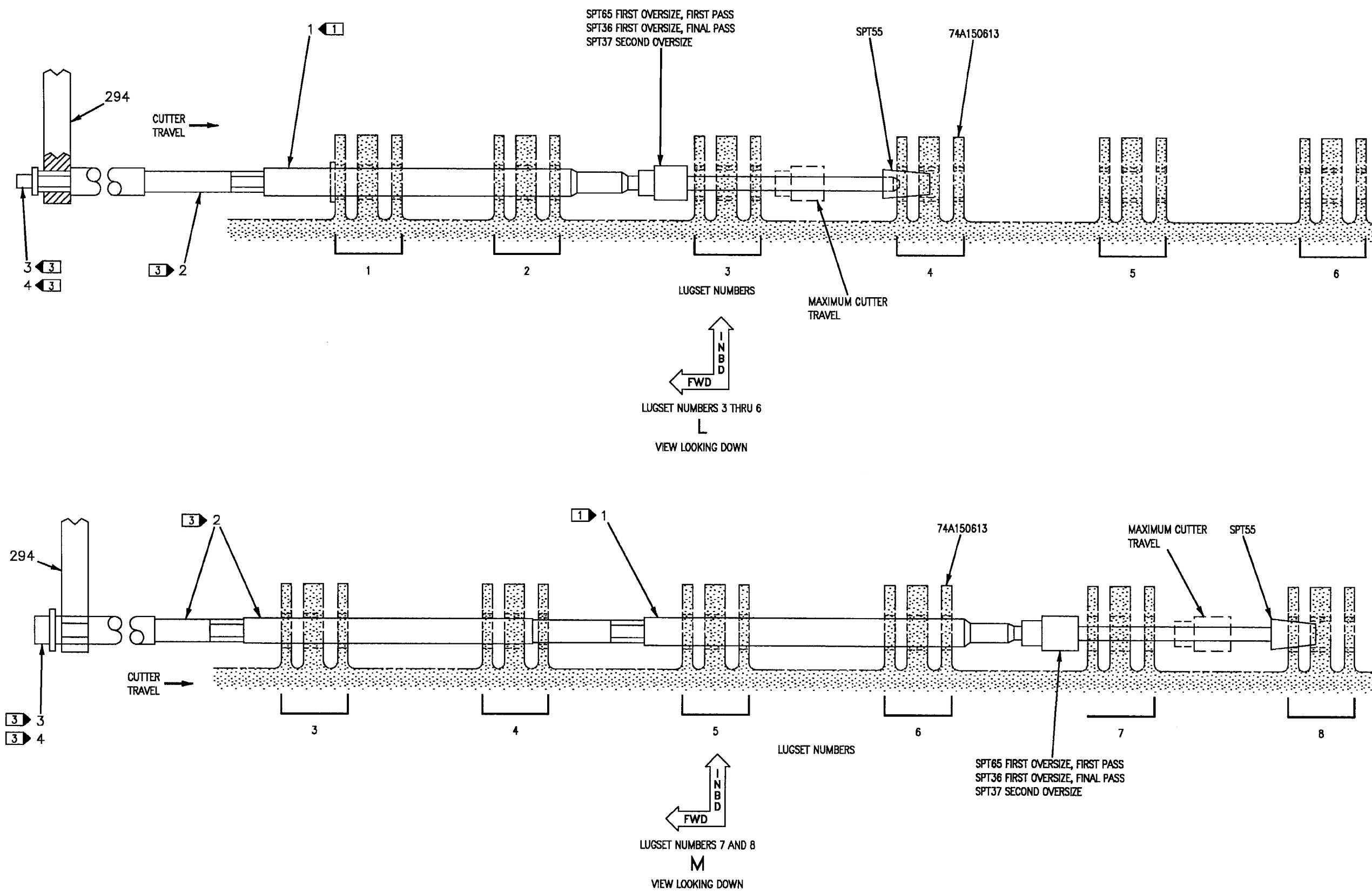


Figure 2. Reaming Lugs (Sheet 7)

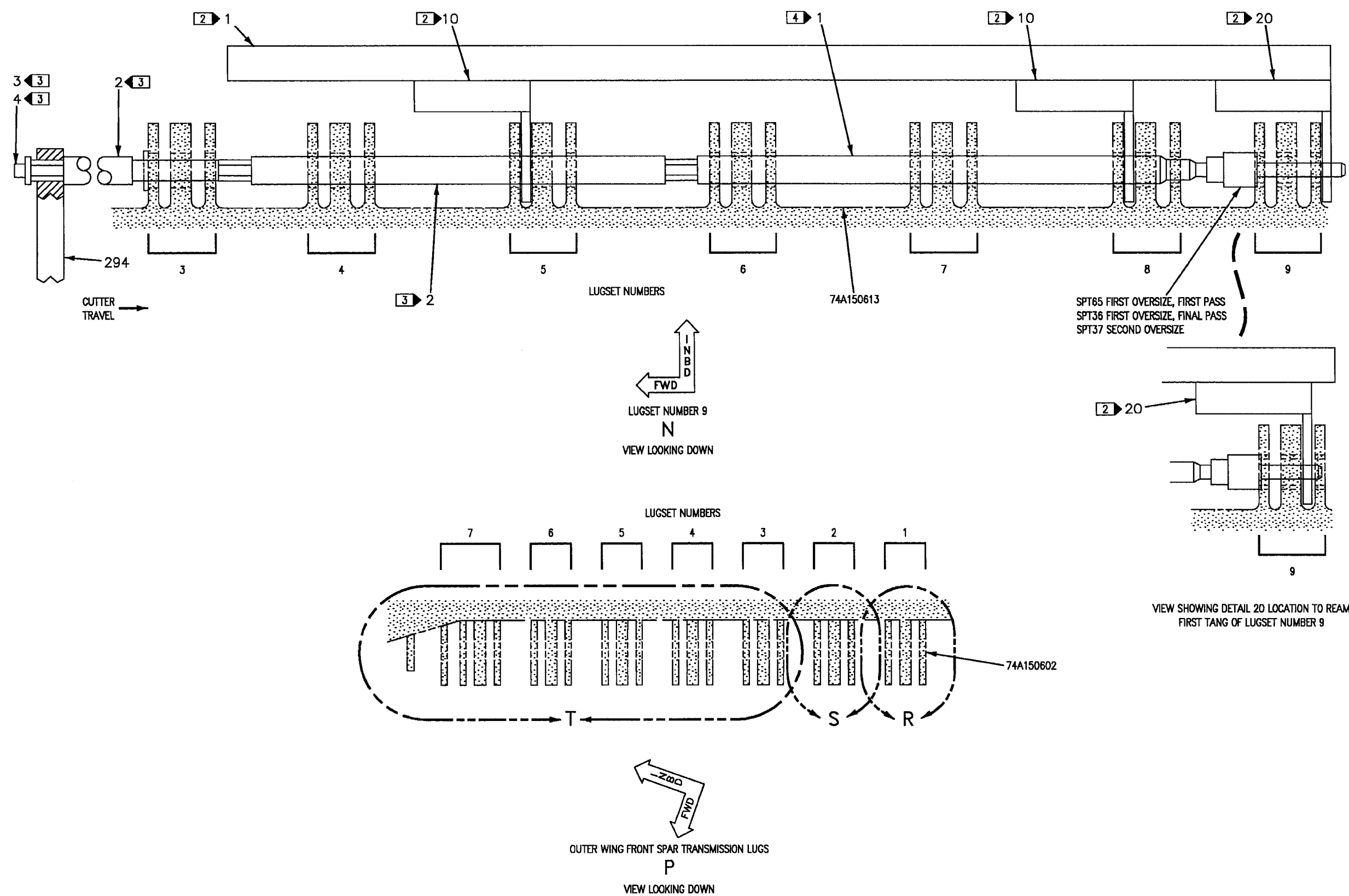


Figure 2. Reaming Lugs (Sheet 8)

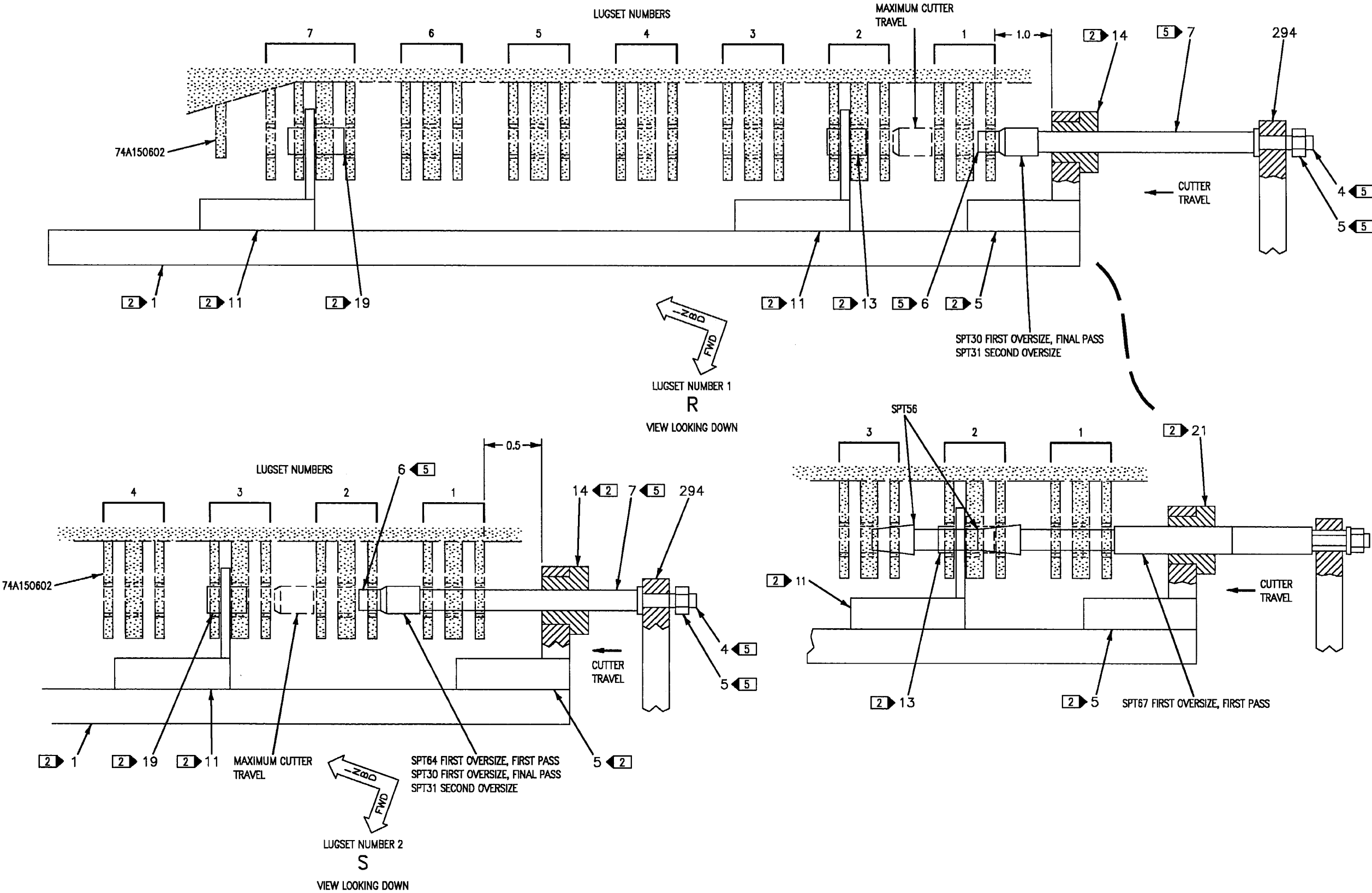


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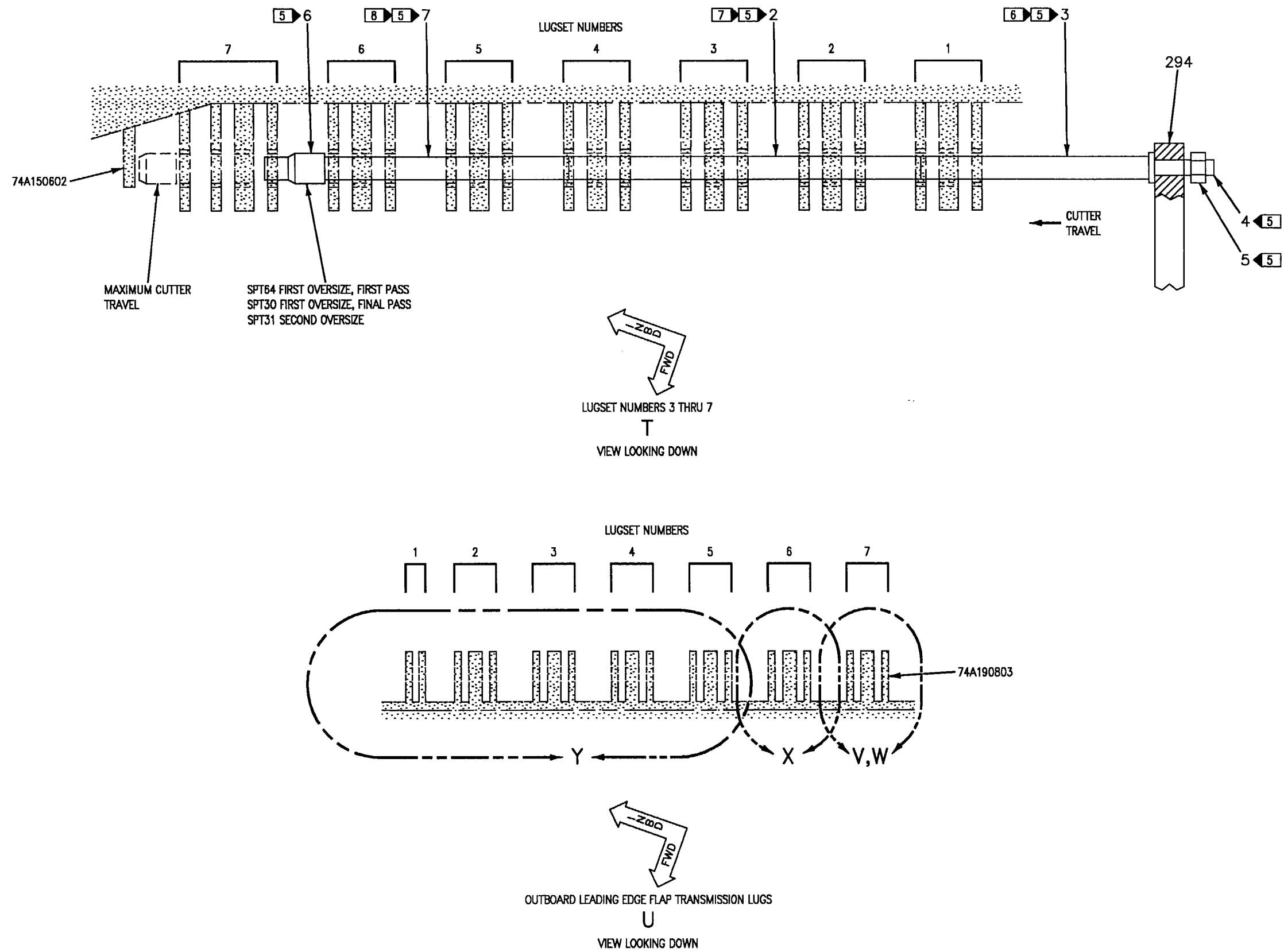


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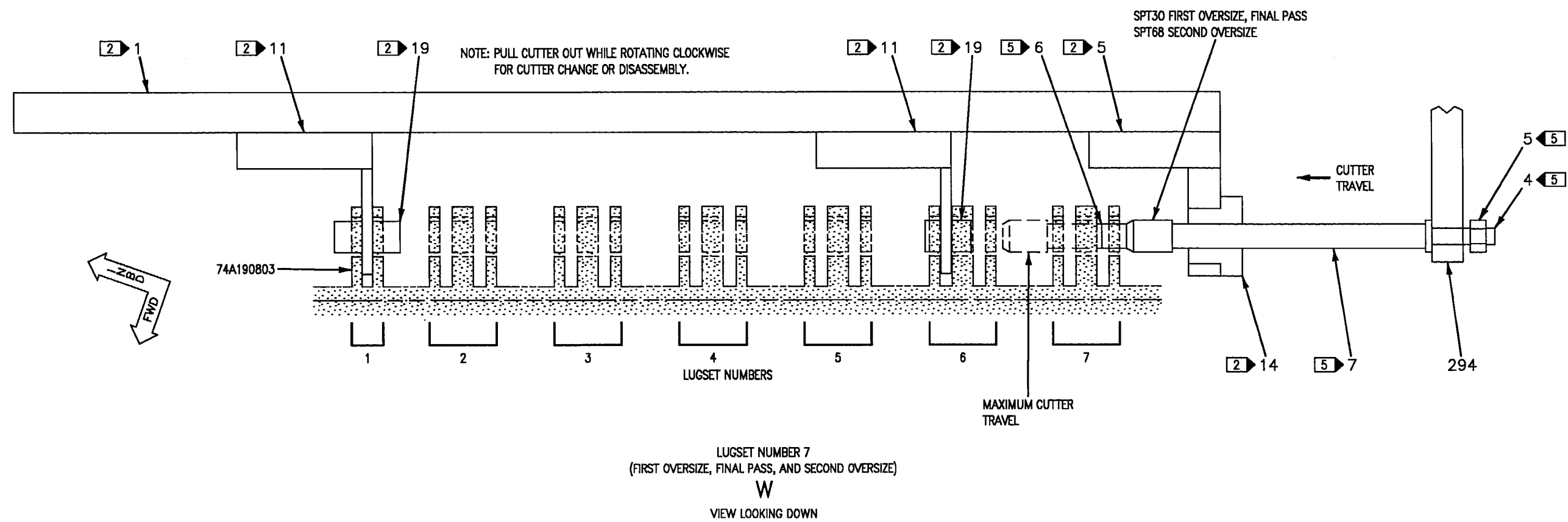
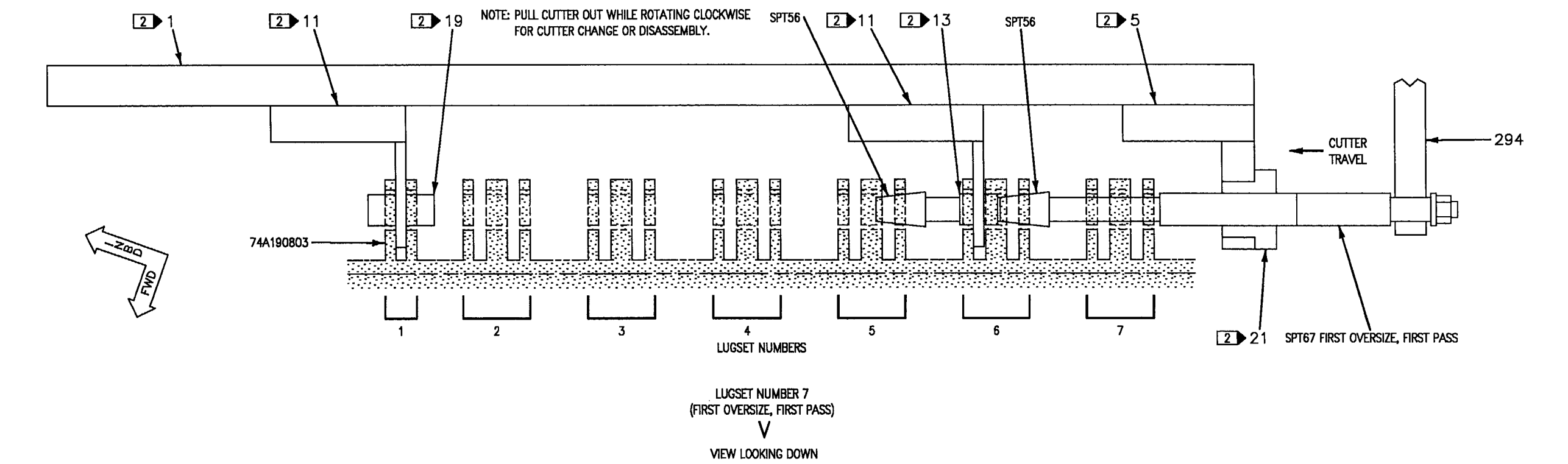


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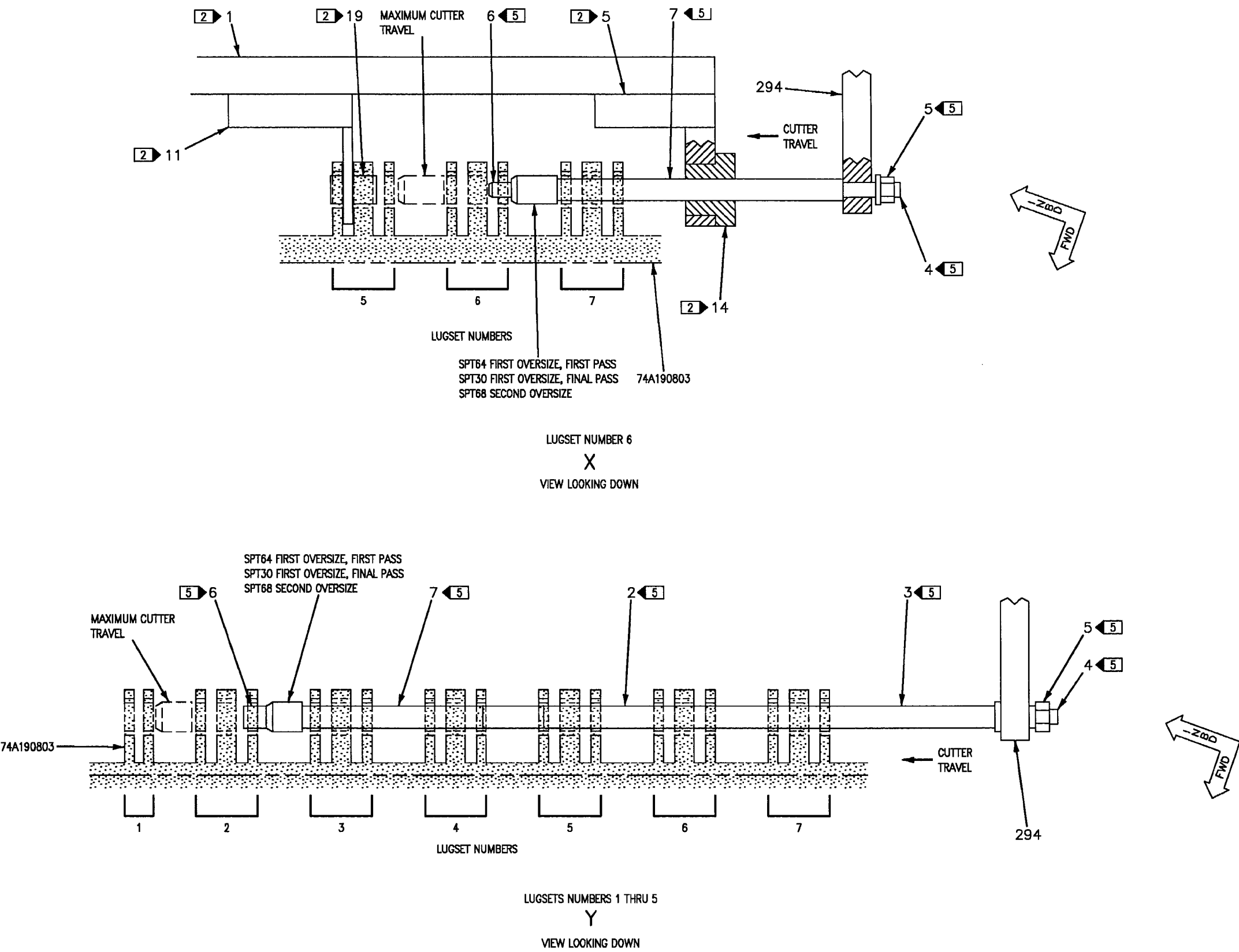


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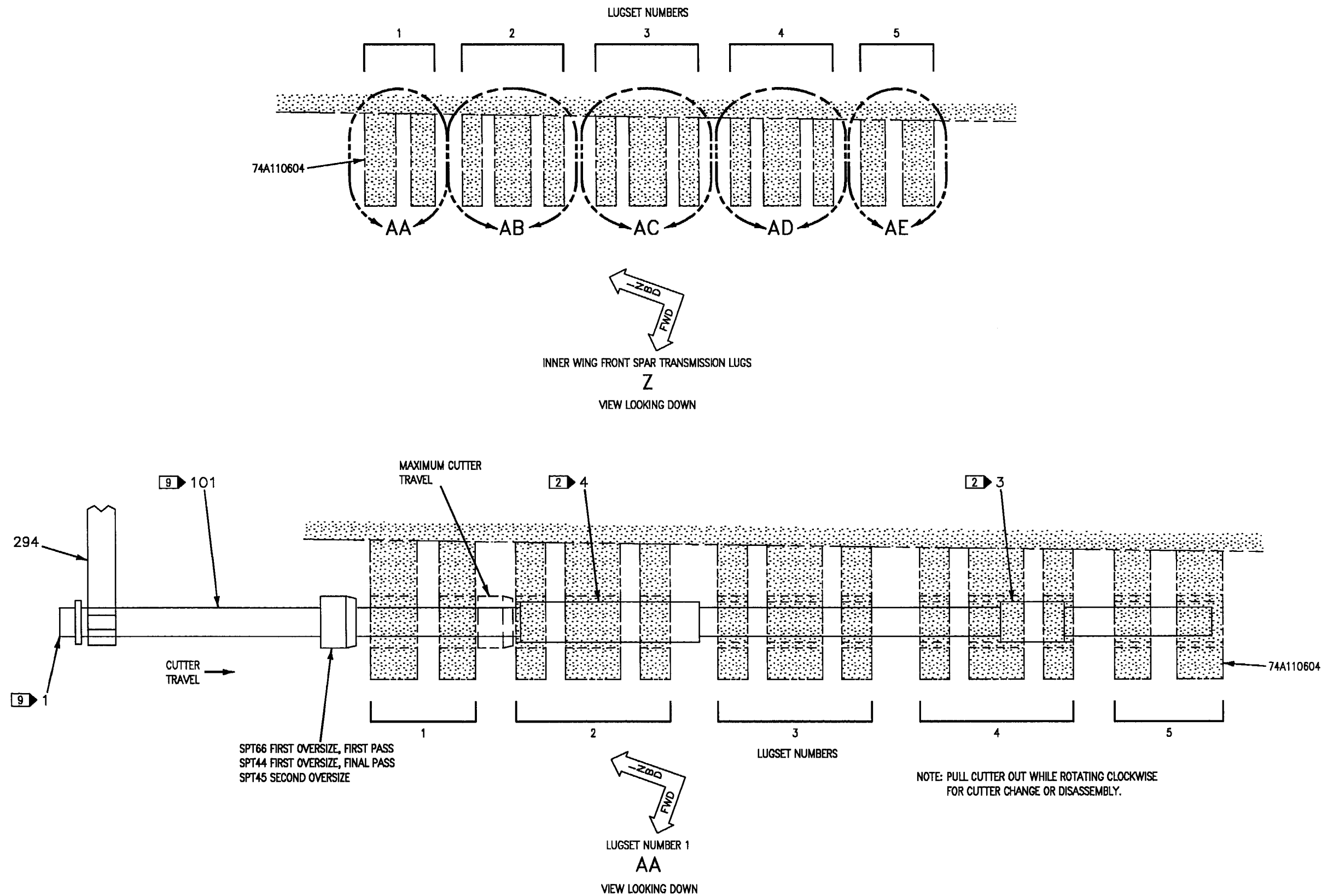


Figure 2. Reaming Lugs (Sheet 13)

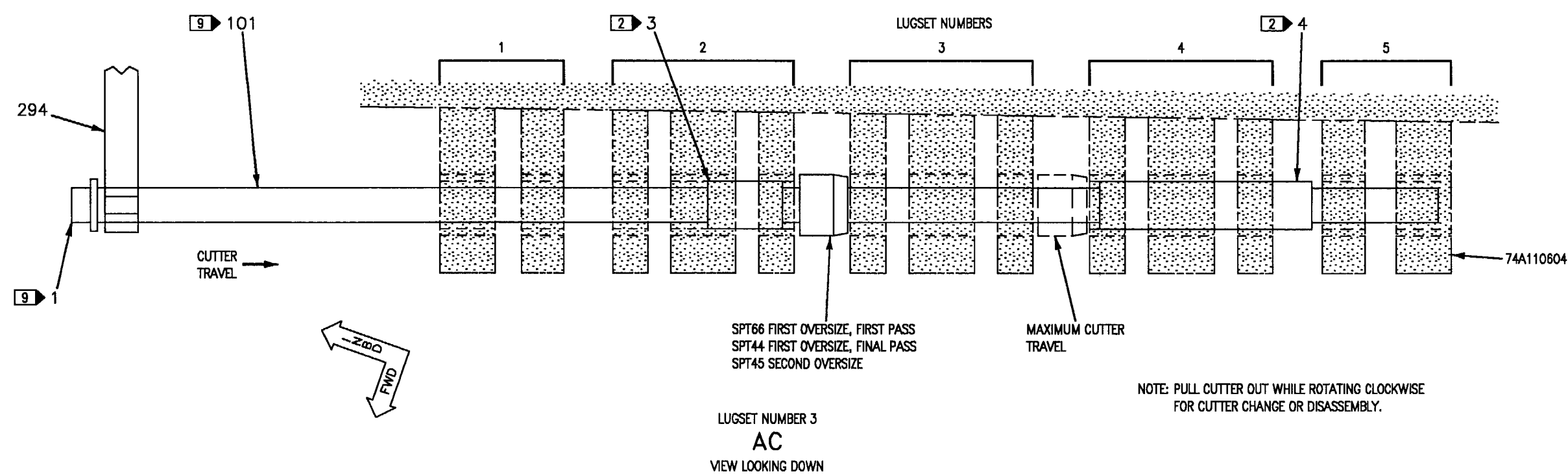
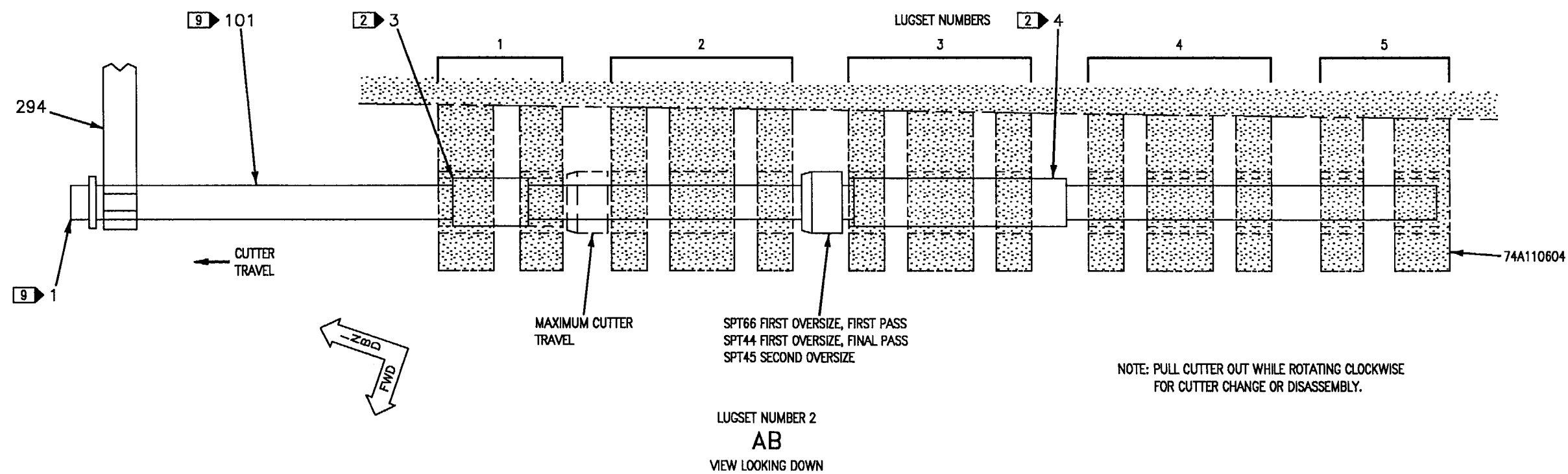


Figure 2. Reaming Lugs (Sheet 14)

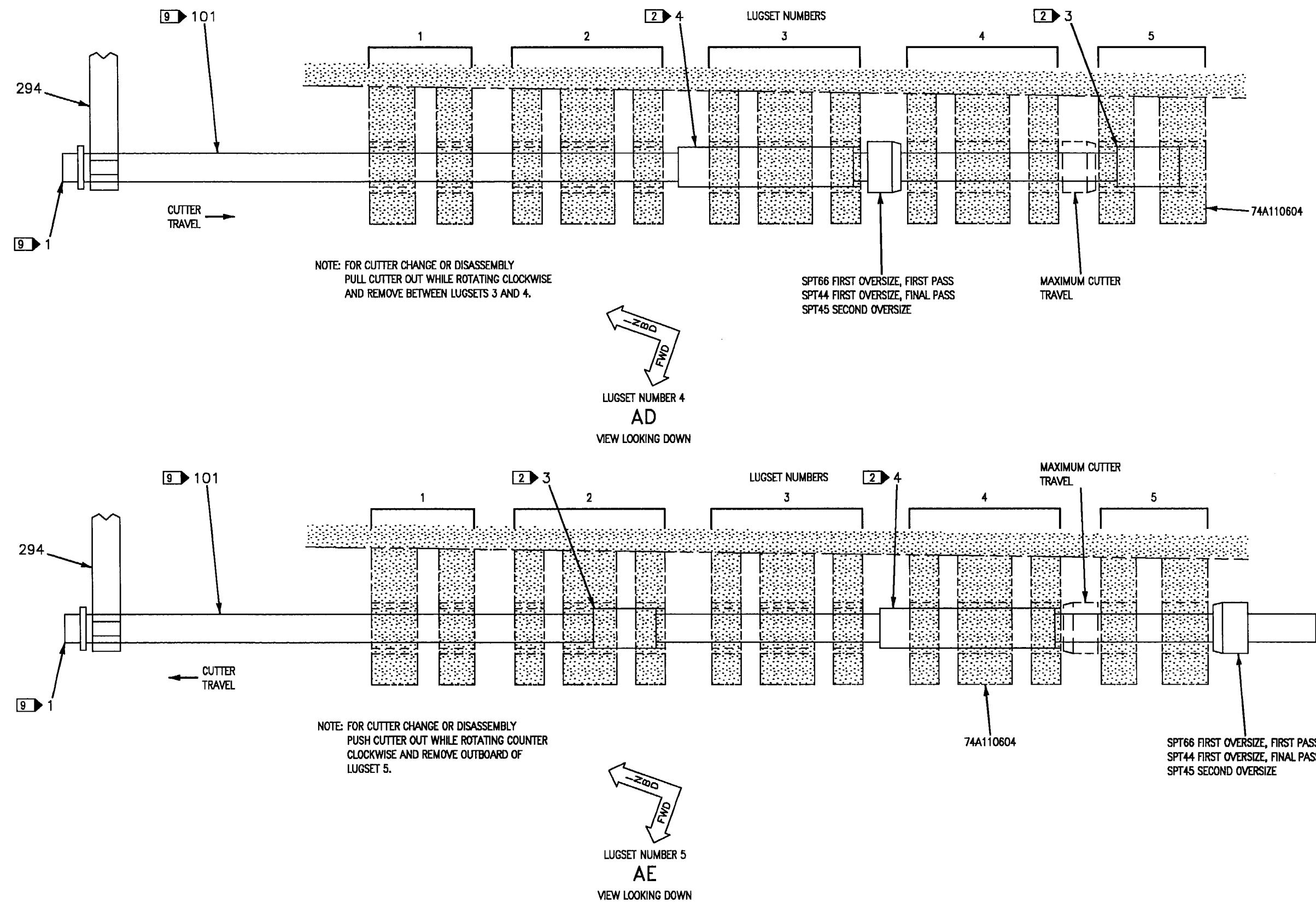


Figure 2. Reaming Lugs (Sheet 15)

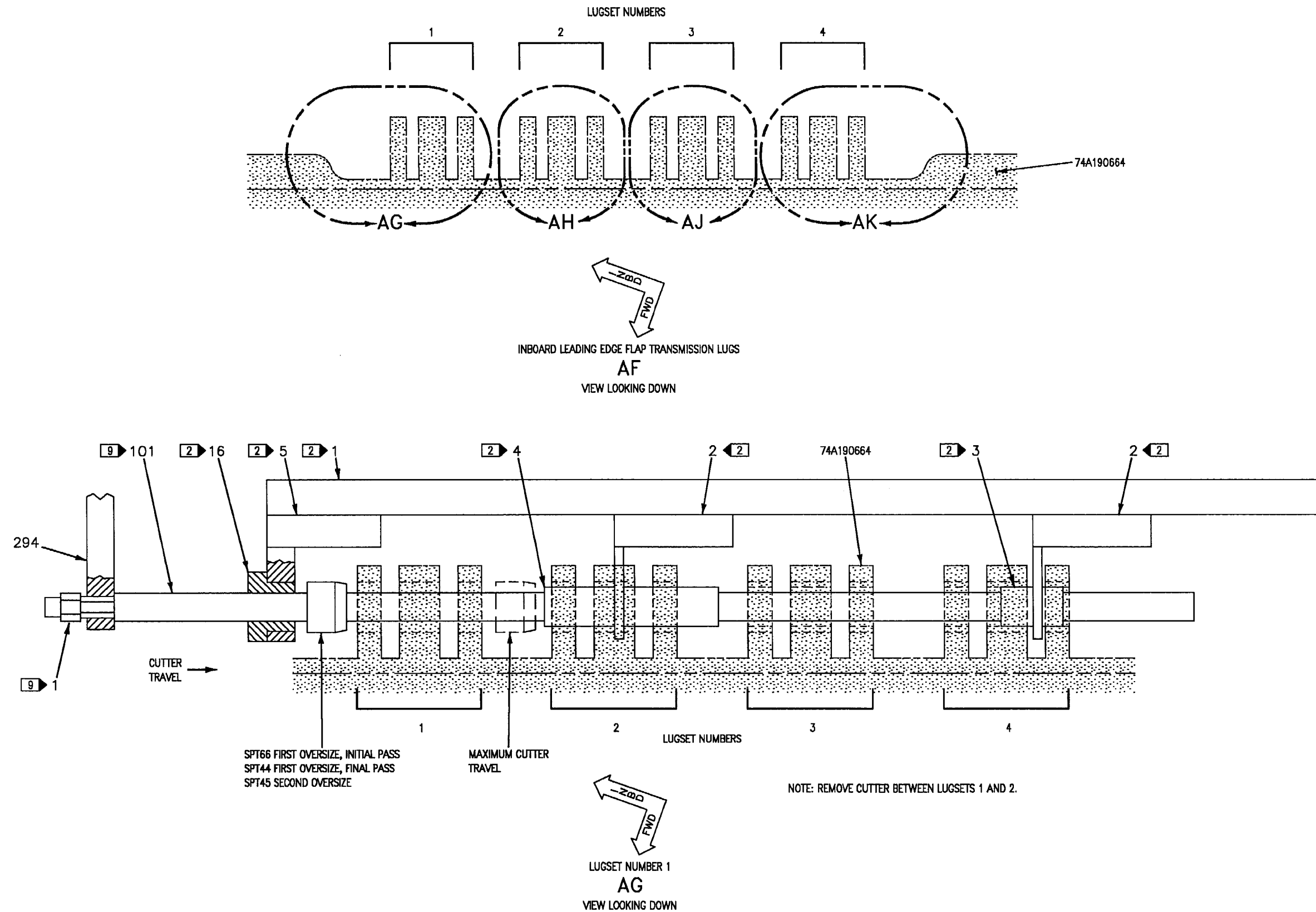


Figure 2. Reaming Lugs (Sheet 16)

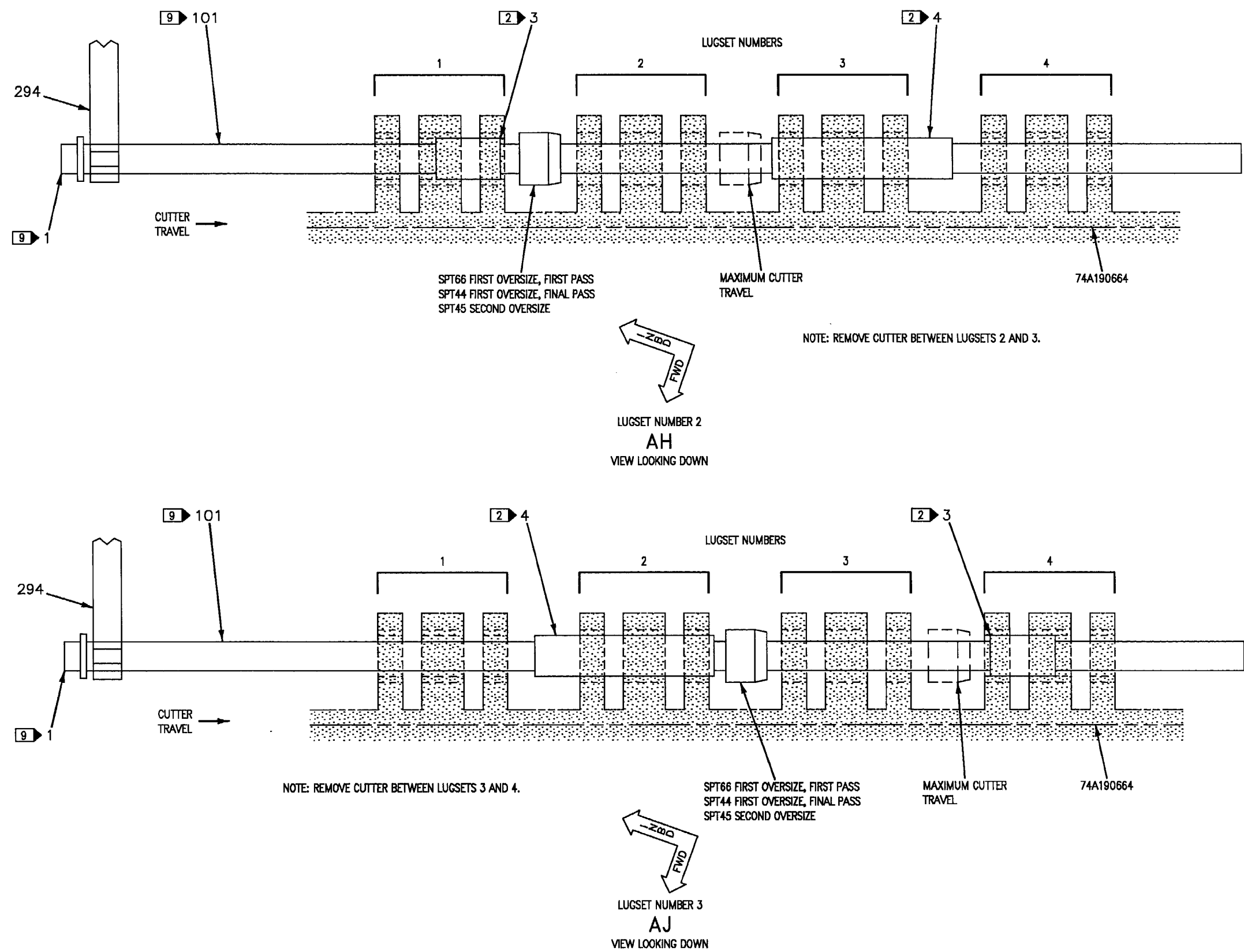


Figure 2. Reaming Lugs (Sheet 17)

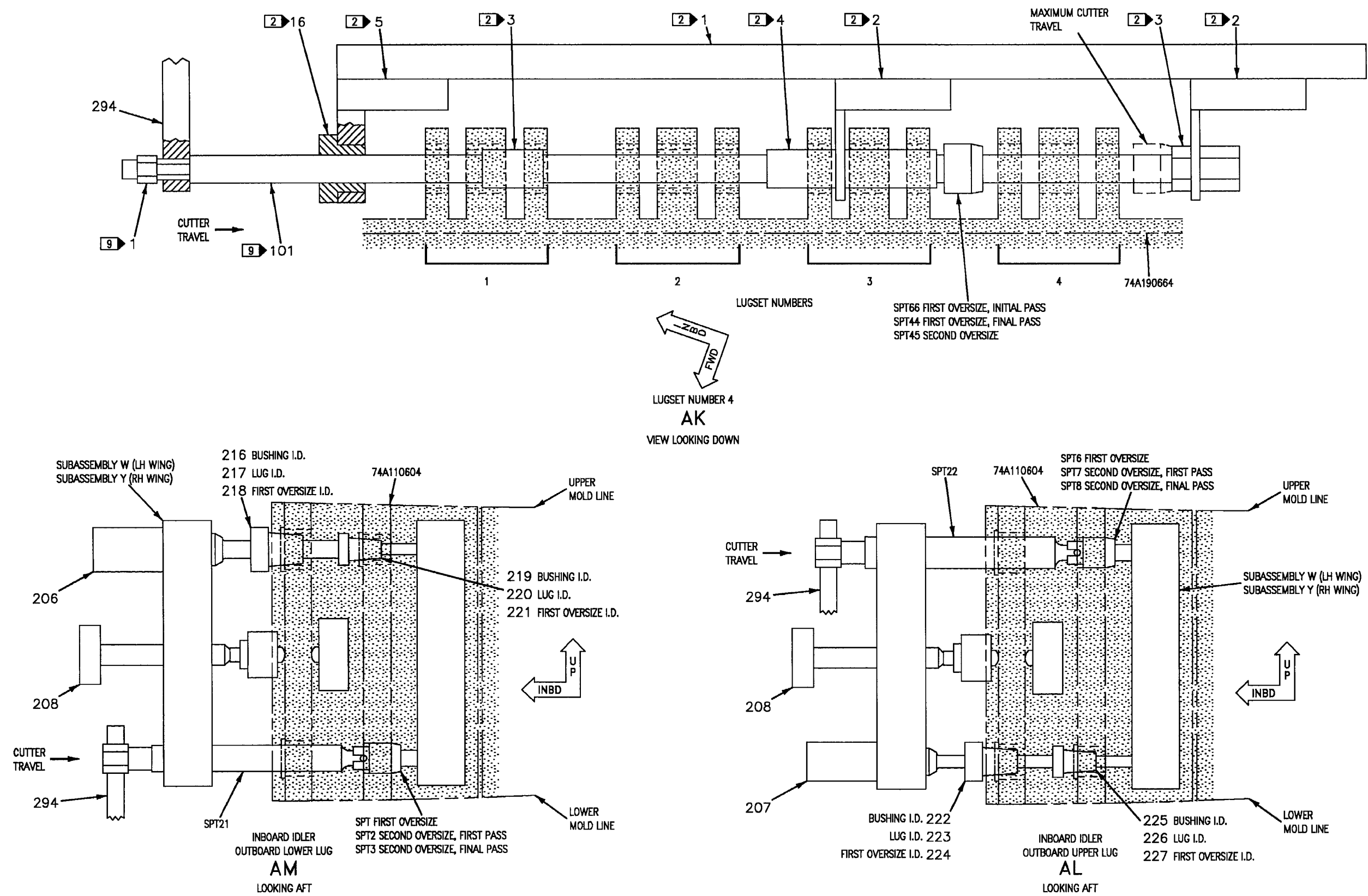


Figure 2. Reaming Lugs (Sheet 18)

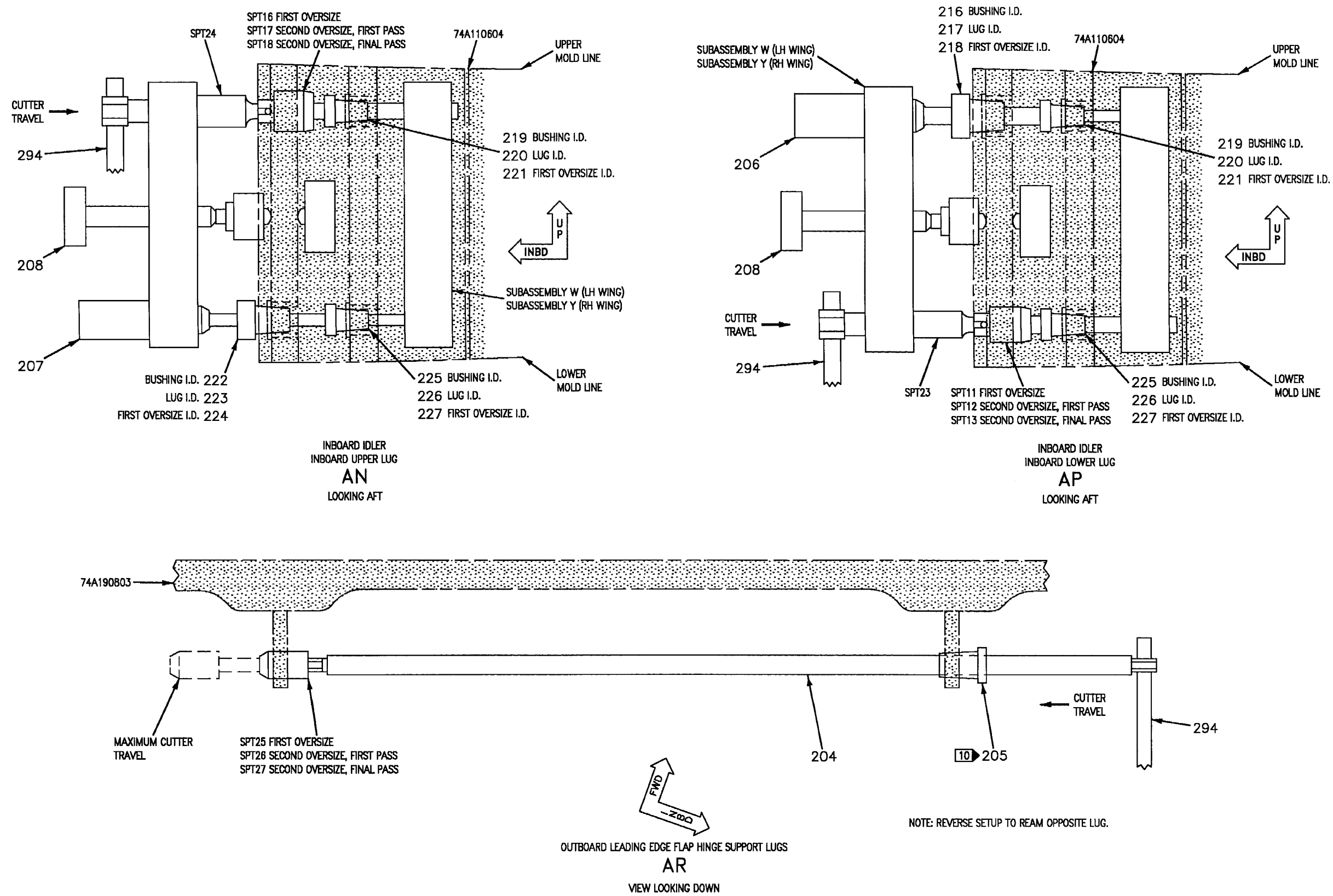


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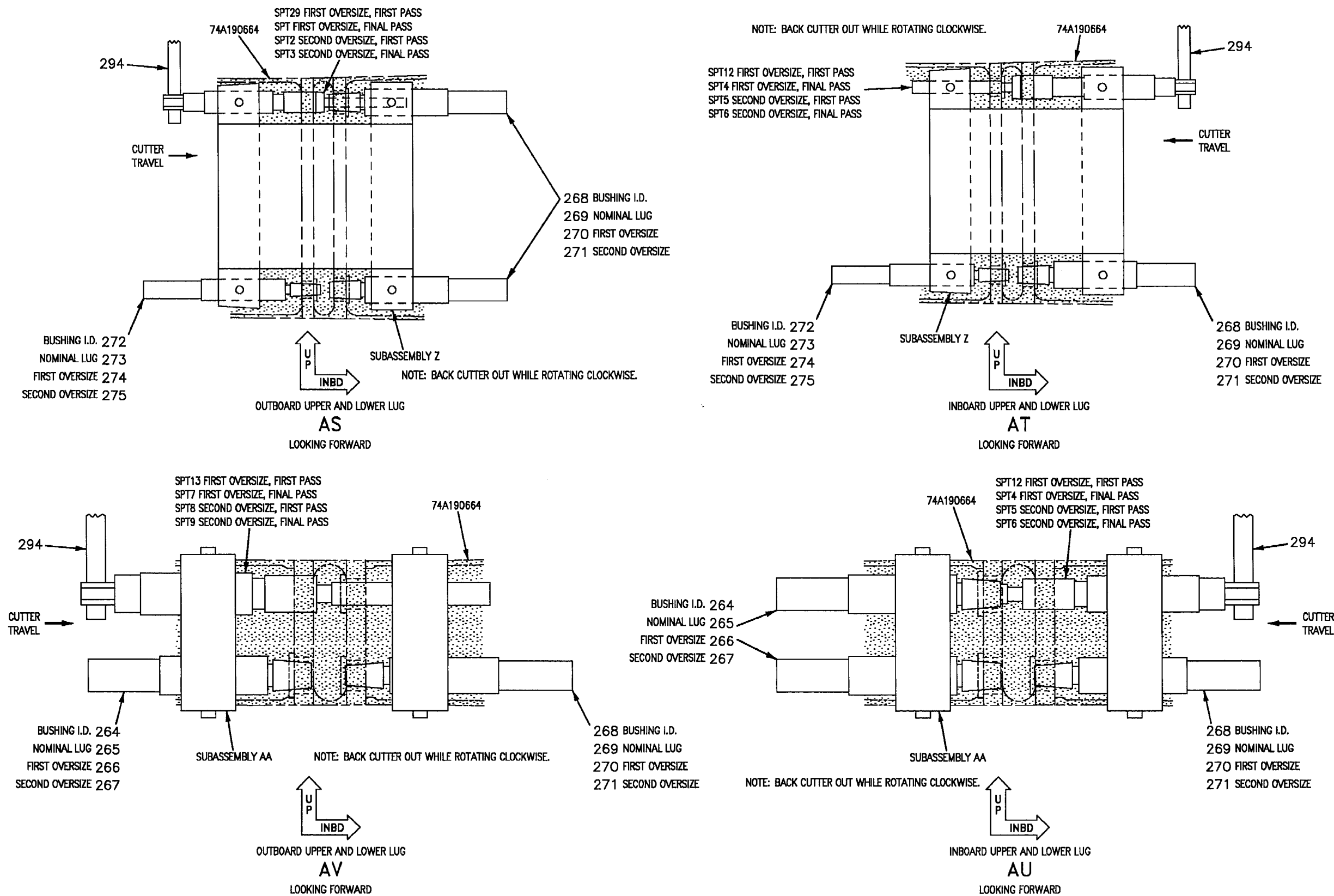


Figure 2. Reaming Lugs (Sheet 20)

Detail No.	Name	Function	Box Location
SPT	Reamer	Reams inside diameter of lug, first oversize.	2
SPT2	Reamer	Reams inside diameter of lug, second oversize.	2
SPT3	Reamer	Reams inside diameter of lug, second oversize.	2
SPT4	Reamer	Reams inside diameter of lug, first oversize.	2
SPT5	Reamer	Reams inside diameter of lug, second oversize.	2
SPT6	Reamer	Reams inside diameter of lug.	2
SPT7	Reamer	Reams inside diameter of lug, second oversize.	2
SPT8	Reamer	Reams inside diameter of lug, second oversize.	2
SPT9	Reamer	Reams inside diameter of lug, second oversize.	2
SPT11	Reamer	Reams inside diameter of lug, first oversize.	2
SPT12	Reamer	Reams inside diameter of lug.	2
SPT13	Reamer	Reams inside diameter of lug.	2
SPT16	Reamer	Reams inside diameter of lug, first oversize.	2
SPT17	Reamer	Reams inside diameter of lug, second oversize.	2
SPT18	Reamer	Reams inside diameter of lug, second oversize.	2
SPT21	Extension Bar	Allows reamer to extend to lugs.	2
SPT22	Extension Bar	Allows reamer to extend to lugs.	2
SPT23	Extension Bar	Allows reamer to extend to lugs.	2
SPT24	Extension Bar	Allows reamer to extend to lugs.	2
SPT25	Reamer	Reams inside diameter of lug, first oversize.	2
SPT26	Reamer	Reams inside diameter of lug, second oversize.	2
SPT27	Reamer	Reams inside diameter of lug, second oversize.	2
SPT29	Reamer	Reams inside diameter of lug, first oversize.	2
SPT30	Reamer	Reams inside diameter of lug, first oversize.	2

Figure 2. Reaming Lugs (Sheet 21)







Detail No.	Name	Function	Box Location
SPT31	Reamer	Reams inside diameter of lug, second oversize.	2
SPT36	Reamer	Reams inside diameter of lug, first oversize.	2
SPT37	Reamer	Reams inside diameter of lug, second oversize.	2
SPT44	Reamer	Reams inside diameter of lug, first oversize.	2
SPT45	Reamer	Reams inside diameter of lug, second oversize.	2
SPT55	Pivot Bushing	Holds alignment fixture in position.	2
SPT56	Tapered Bushing	Aligns extension bar with lug when bushing is bad or removed.	2
SPT64	Reamer	Reams inside diameter of lug, first oversize.	2
SPT65	Reamer	Reams inside diameter of lug, first oversize.	2
SPT66	Reamer	Reams inside diameter of lug, first oversize.	2
SPT67	Reamer	Reams inside diameter of lug, first oversize.	2
SPT68	Reamer	Reams inside diameter of lug, second oversize.	2
Subassembly W	Lug Reaming Tool	Reams lug holes at left side inner wing inboard idler lugs.	3
Subassembly Y	Lug Reaming Tool	Reams lug holes at right side inner wing inboard idler lugs.	3
Subassembly Z	Lug Reaming Tool	Reams lug holes at leading edge flap inboard idler lugs.	3
Subassembly AA	Lug Reaming Tool	Reams lug holes at leading edge flap outboard idler lugs.	3
1 	Extension Bar	Allows reamer to extend to inboard hinge tangs.	2
1 	Alignment Bar	Holds details of SPT assembly in place.	2
1 	Extension Bar	Allows reamer to extend to inboard hinge tangs.	2
1 	Retainer Nut	Secure detail 294 in place.	2
2 	Alignment Fitting	Provides alignment of reaming tool.	2 or 9
2 	Extension Bar	Allows reamer to extend to inboard hinge tangs.	2

Figure 2. Reaming Lugs (Sheet 22)










Detail No.	Name	Function	Box Location
2 	Extension Bar	Allows reamer to extend to inboard hinge tangs.	2
3, 4 	Retainer Nut	Secure detail 294 in place.	2
3 	Alignment Bushing	Provides alignment of reaming tool.	2
3, 4 	Retainer Nut	Secure detail 294 in place.	2
3 	Extension Bar	Allows reamer to extend to inboard tangs.	2
4 	Alignment Bushing	Provides alignment of reaming tool.	2
4 	Adapter	Adapts detail 294 to extension inboard hinge tangs.	2
5 	Alignment Fitting	Aligns the alignment bar for reaming lugsets.	2
5 	Retainer Nut	Secure detail 294 in place.	2
6 	Alignment Fitting	Secures to SPT64 for reaming of lugset.	2
7 	Extension Bar	Allows reamer to extend to inboard hinge tangs.	2
9 	Pivot Bushing	Holds alignment fixture in position.	2
10 	Alignment Fitting	Holds alignment fixture to pivot bushing (detail 9).	2
11 	Alignment Fitting	Holds alignment fixture to pivot bushing (detail 13).	2
12 	Pivot Bushing	Holds alignment fixture to pivot bushing (detail 10).	2
13 	Pivot Bushing	Holds alignment fixture in position.	2
14 	Pilot Bushing	Holds alignment fixture in position.	2
16 	Pilot Bushing	Holds alignment fixture in place.	2 or 9
18 	Pilot Bushing	Holds alignment fixture in position.	2
19 	Pivot Bushing	Holds alignment fixture in position.	2
20 	Alignment Fitting	Aligns the alignment bar for reaming lugsets.	2
21 	Pilot Bushing	Holds alignment fixture in position.	2
101 	Extension Bar	Allows reamer to extend to lugs.	2
204	Extension Bar	Allows reamer to extend to outer lug.	3

Figure 2. Reaming Lugs (Sheet 23)


Detail No.	Name	Function	Box Location
205 	Bushing	Used to align extension bar (detail 204) for reaming outer lug.	3
206	Alignment Pin	Used to secure alignment bushings (detail 216, 217, 218, 219, 220, and 221) in place.	3
207	Alignment Pin	Used to secure alignment bushings (detail 222, 223, 224, 225, 226, and 227) in place.	3
208	Hand Knob	Secure subassembly W or Y in place.	3
216	Bushing	Use to align alignment pin (detail 206).	3
217	Bushing	Use to align alignment pin (detail 206).	3
218	Bushing	Use to align alignment pin (detail 206).	3
219	Bushing	Use to align alignment pin (detail 206).	3
220	Bushing	Use to align alignment pin (detail 206).	3
221	Bushing	Use to align alignment pin (detail 206).	3
222	Bushing	Use to align alignment pin (detail 207).	3
223	Bushing	Use to align alignment pin (detail 207).	3
224	Bushing	Use to align alignment pin (detail 207).	3
225	Bushing	Use to align alignment pin (detail 207).	3
226	Bushing	Use to align alignment pin (detail 207).	3
227	Bushing	Use to align alignment pin (detail 207).	3
264	Alignment Pin	Used to align subassembly AA.	3
265	Alignment Pin	Used to align subassembly AA.	3
266	Alignment Pin	Used to align subassembly AA.	3
267	Alignment Pin	Used to align subassembly AA.	3
268	Alignment Pin	Used to align subassembly Z.	3
269	Alignment Pin	Used to align subassembly AA.	3
270	Alignment Pin	Used to align subassembly AA.	3

Figure 2. Reaming Lugs (Sheet 24)











Detail No.	Name	Function	Box Location
271	Alignment Pin	Used to align subassembly AA.	3
272	Alignment Pin	Used to align subassembly Z.	3
273	Alignment Pin	Used to align subassembly Z.	3
274	Alignment Pin	Used to align subassembly Z.	3
275	Alignment Pin	Used to align subassembly Z.	3
294	Ratchet Wrench	Used to turn reamer.	3
<p style="text-align: center;">LEGEND</p> <p>  Detail of SPT52RE274110000TD.  Detail of SPT51RE274110000TD.  Detail of SPT50RE274110000TD.  Detail of SPT63RE274110000TD.  Detail of SPT53RE274110000TD.  For reaming lugsets 1 and 2.  For reaming lugsets 3 and 4.  For reaming lugsets 5, 6, and 7.  Detail of SPT49RE274110000TD.  Not required if bushing is not damaged. </p>			

Figure 2. Reaming Lugs (Sheet 25)

22. **BUSHING INSTALLATION.** See figure 3.**NOTE****Support Equipment Required**

Part Number or Type Designation	Nomenclature
RE274110000-1	Wing Transmission Lug Bushing Tool Kit
RCH-123	Hydraulic Cylinder
RD-93	Hydraulic Cylinder

Materials Required

None

23. **INBOARD AND OUTBOARD WING FOLD TRANSMISSION LUG BUSHINGS.**

a. Do Bushing Removal, this WP, before doing these procedures.

NOTE

If more than one lug set has damaged bushings, repair the lug sets in sequence, forward to aft, one lug set at a time.

In a triple tang lug set install middle tang bushing before installing forward and aft tang bushings.

b. Determine the lug set number and first or second oversize requirement for bushing to be installed, view A.

c. For inboard wing fold lugs, first oversize:

(1) Assemble and install details of SPT46 bushing installation tool and replacement bushing as applicable to match part configuration, views A and B.

When installing bushings into a middle lug, spacer (detail 16) and anvil (detail 15) are used first to press bushing half way into lug, then replaced with spacer (detail 17) and anvil (detail 14), respectively, to press bushing completely into lug (view B).

(2) Turn bolt (detail 6) clockwise until bushing is pressed into lug, views A and B.

(3) Remove SPT46 by turning bolt (detail 6) counterclockwise and removing details of SPT46 bushing installation tool.

d. For inboard wing fold lugs, second oversize:

(1) Assemble and install details and subassemblies and replacement bushing as applicable to match part configuration, views D through G.

(2) Attach hydraulic cylinder to assembled details, views D through G.



Support assembly subassemblies may slip from lugs after mandrel is pulled through the lugs. Catch support assembly before it falls, to avoid damage to details.

(3) Activate hydraulic cylinder to pull mandrel through bushing.

(4) Retract hydraulic cylinder and disassemble and remove details from aircraft.

e. For outboard wing fold lugs, first oversize:

(1) Assemble and install details of SPT46 bushing installation tool and replacement bushing as applicable to match part configuration, views J and K.

(2) Turn bolt (detail 6) clockwise until bushing is pressed into lug, views J and K.

(3) Remove SPT46 by turning bolt (detail 6) counterclockwise and removing details of SPT46 bushing installation tool.

f. For outboard wing fold lugs, second oversize:

(1) Assemble and install details and subassemblies and replacement bushing as applicable to match part configuration, views L through N.

(2) Attach hydraulic cylinder to assembled details, views L through N.

NOTE

Catch support assembly before it falls to avoid damage to details.

(3) Activate hydraulic cylinder to pull mandrel through bushing.

(4) Retract hydraulic cylinder and disassemble and remove details from aircraft.

g. Ream installed bushings per Reaming Bushings, this WP.

24. OUTER WING FRONT SPAR TRANSMISSION LUG BUSHINGS.

a. Do Bushing Removal, this WP, before doing these procedures.

NOTE

If more than one lug set has damaged bushings, repair the lug sets in sequence, outboard to inboard, one lug set at a time.

b. Determine the lug set number and first or second oversize requirement for bushing to be installed, view P.

c. For first oversize:

(1) Assemble and install details of SPT47 bushing installation tool and replacement bushing as applicable to match part configuration, views R through W.

(2) Tighten extension bar (detail 4 or 6) using ratchet wrench (detail 8) until bushing is completely pressed into lug, views R through W.

(3) Remove SPT47 by loosening extension bar (detail 4 or 6) and removing details of SPT47 bushing installation tool.

d. For second oversize:

(1) For lug sets 1 through 6 remove 74A150678 hinge half to provide clearance for puller details. For hinge half part information (A1-F18AC-SRM-410, FIG 008 00).

(2) Assembly and install details and subassemblies and replacement bushing as applicable to match part configuration, views X and Y.



Use padding between C-clamp and aircraft to protect surface finish.

(3) Support assembled details installed on aircraft with depot supplied C-clamps as required.

(4) Attach hydraulic cylinder to assembled details, view X.

NOTE

Catch support assembly before it falls to avoid damage to details.

(5) Activate hydraulic cylinder to pull mandrel through bushing.

(6) Retract hydraulic cylinder and disassemble and remove details from aircraft.

e. Ream installed bushings per Reaming Bushings, this WP.

25. OUTBOARD LEADING EDGE FLAP TRANSMISSION LUG BUSHINGS.

a. Do Bushing Removal, this WP, before doing these procedures.

NOTE

If more than one lug set has damaged bushings, repair the lug sets in sequence, outboard to inboard, one lug set at a time.

b. Determine the lug set number and first or second oversize requirement for bushing to be installed, view Z.

NOTE

First and second oversize bushings are installed using the same procedures and details.

c. Assemble and install details of SPT47 bushing installation tool and replacement bushing as applicable to match part configuration, views AA through AC.

d. Tighten extension bar (detail 4) using ratchet wrench (detail 8) until bushing is completely pressed into lug, views AA through AC.

e. Remove SPT47 by loosening extension bar (detail 4) and removing details of SPT47 bushing installation tool.

f. Ream installed bushings per Reaming Bushings, this WP.

26. INNER WING FRONT SPAR TRANSMISSION LUG BUSHINGS.

a. Do Bushing Removal, this WP, before doing these procedures.

NOTE

If more than one lug set has damaged bushings, repair the lug sets in sequence, inboard to outboard, one lug set at a time.

b. Determine the lug set number and first or second oversize requirement for bushing to be installed, view AD.

c. For first oversize:

(1) Lug set number 1:

(a) Assemble and install SPT48 bushing installation tool and replacement bushing for tang A, view AE.

(b) Tighten extension bar (detail 23) until bushing is completely pressed into tang A, view AE.

NOTE

Extension bar (detail 23) will not pass through the replacement bushing just installed.

(c) Loosen extension bar (detail 23) and remove all attached details from lug, view AE. Slide extension bar (detail 23) outboard to past lug set number 5 for removal from lugs.

(d) Assemble and install SPT48 bushing installation tool and replacement bushing for tang B, view AF.

(e) Tighten extension bar (detail 24) until bushing is completely pressed into tang B, view AF.

(f) Loosen extension bar (detail 24) and remove all attached details from lug, view AF.

(2) Lug set numbers 2 through 4:

NOTE

Install bushing in tang D first, then tangs C, B, and A, in that order.

(a) Assemble and install details and subassemblies and replacement bushing as applicable to match part configuration, view AG.

(b) Tighten extension bar (detail 300) using ratchet wrench (detail 294) until bushing is completely pressed into lug, view AG.

(c) Repeat steps for other tangs of the lug set.

(d) Remove assembled details by loosening extension bar (detail 300) and removing from aircraft.

(3) For lug set number 5:

(a) Assemble and install SPT48 bushing installation tool and replacement bushing for tang B, view AH.

(b) Tighten extension bar (detail 23) until bushing is completely pressed into tang B, view AH.

(c) Loosen extension bar (detail 23) and remove all attached details from lug, view AH.

(d) Assemble and install SPT48 bushing installation tool and replacement bushing for tang A, view AJ.

(e) Tighten extension bar (detail 24) until bushing is completely pressed into tang A, view AJ.

(f) Loosen extension bar (detail 24) and remove all attached details from lug, view AJ.

d. Ream installed bushings per Reaming Bushings, this WP.

e. For second oversize:

(1) Assemble and install details and subassemblies and replacement bushing as applicable to match part configuration, views AK through AM.



Use padding between C-clamp and aircraft to protect surface finish.

(2) Support assembled details installed on aircraft with depot supplied C-clamps as required.

(3) Attach hydraulic cylinder to assembled details, view AK.

NOTE

Catch support assembly before it falls to avoid damage to details.

(4) Activate hydraulic cylinder to pull mandrel through bushing.

(5) Retract hydraulic cylinder and disassemble and remove details from aircraft.

f. Ream installed bushings per Reaming Bushings, this WP.

27. INBOARD LEADING EDGE FLAP TRANSMISSION LUG BUSHINGS.

a. Do Bushing Removal, this WP, before doing these procedures.

NOTE

If more than one lug set has damaged bushings, repair the lug sets in sequence, inboard to outboard, one lug set at a time.

b. Determine the lug set number and first or second oversize requirement for bushing to be installed, view AN.

c. For first oversize:

(1) Assemble and install details of SPT48 bushing installation tool and replacement bushing as applicable to match part configuration, views AP and AR.

(2) Tighten extension bar (detail 28) until bushing is completely pressed into lug, views AP and AR.

(3) Remove SPT48 by loosening extension bar (detail 28) and removing details of SPT48 bushing installation tool.

d. For second oversize:

(1) Assemble and install details and subassemblies and replacement bushing as applicable to match part configuration, view AS.



Use padding between C-clamp and aircraft to protect surface finish.

(2) Support assembled details installed on aircraft with depot supplied C-clamps as required.

(3) Attach hydraulic cylinder to assembled details, view AS.

NOTE

Catch support assembly before it falls to avoid damage to details.

(4) Activate hydraulic cylinder to pull mandrel through bushing.

(5) Retract hydraulic cylinder and disassemble and remove details from aircraft.

e. Ream installed bushings per Reaming Bushings, this WP.

28. INNER WING FRONT SPAR INBOARD IDLER LUG BUSHINGS.

a. Do Bushing Removal, this WP, before doing these procedures.

b. Determine the lug set number and first or second oversize requirement for bushing to be installed, view AT.

c. For first oversize:

(1) Assemble and install subassembly K, L, M, or N and replacement bushing as applicable to match part configuration, views AU and AV.

(2) Tighten bolt (detail 148, 153, 158, or 164) until bushing is completely pressed into lug, views AU and AV.

(3) Remove subassembly K, L, M, or N by loosening bolt (detail 148, 153, 158, or 164) and removing details of bushing installation tool.

d. For second oversize:

(1) Assemble and install details and subassemblies and replacement bushing as applicable to match part configuration, view AW and AX.

NOTE

Hydraulic cylinder and assembled details must be supported by hand during this operation.

(2) Attach hydraulic cylinder to assembled details, view AW and AX.

(3) Activate hydraulic cylinder to pull mandrel through bushing.

(4) For outboard lug, stop hydraulic cylinder after mandrel is pulled through bushing. Slide assembly inboard, catching the wedge assembly before it falls.

(5) Retract hydraulic cylinder and disassemble and remove details from aircraft.

e. Ream installed bushings per Reaming Bushings, this WP.

29. OUTBOARD LEADING EDGE FLAP HINGE SUPPORT LUG BUSHINGS.

a. Do Bushing Removal, this WP, before doing these procedures.

b. Determine the lug set number and first or second oversize requirement for bushing to be installed.

c. For first oversize:

(1) Assemble and install subassembly U and replacement bushing as applicable to match part configuration, views AY.

(2) Tighten bolt (detail 192) until bushing is completely pressed into lug, views AY.

(3) Remove subassembly U by loosening bolt (detail 192) and removing details of bushing installation tool.

d. For second oversize:

(1) Assemble and install details and subassemblies and replacement bushing as applicable to match part configuration, view AZ.

NOTE

Hydraulic cylinder and assembled details must be supported by hand during this operation.

(2) Attach hydraulic cylinder to assembled details, view AZ.

(3) Activate hydraulic cylinder to pull mandrel through bushing.

(4) Retract hydraulic cylinder and disassemble and remove details from aircraft.

e. Ream installed bushings per Reaming Bushings, this WP.

30. INBOARD LEADING EDGE FLAP IDLER LUG BUSHINGS.

a. Do Bushing Removal, this WP, before doing these procedures.

b. Determine the lug set number and first or second oversize requirement for bushing to be installed, views BA and BE.

c. For inboard lugs, first oversize:

(1) Assemble and install subassembly P or R and replacement bushing as applicable to match part configuration, view BB.

(2) Tighten bolt (detail 170 or 175) until flange of bushing is pressed flush against lug, view BB.

(3) Remove subassembly P or R by loosening bolt (detail 170 or 175) and removing details of bushing installation tool.

d. For inboard lugs, second oversize:

(1) Assemble and install details and subassemblies and replacement bushing as applicable to match part configuration, views BC and BD.

NOTE

Hydraulic cylinder and assembled details must be supported by hand during this operation.

(2) Attach hydraulic cylinder to assembled details, view BC and BD.

(3) Activate hydraulic cylinder to pull mandrel through bushing.

(4) Retract hydraulic cylinder and disassemble and remove details from aircraft.

e. For outboard lugs, first oversize:

(1) Assemble and install subassembly S or T and replacement bushing as applicable to match part configuration, view BF.

(2) Tighten bolt (detail 180 or 186) until flange of bushing is pressed flush against lug, view BF.

(3) Remove subassembly S or T by loosening bolt (detail 180 or 186) and removing details of bushing installation tool.

f. For outboard lugs, second oversize:

(1) Assemble and install details and subassemblies and replacement bushing as applicable to match part configuration, views BG and BH.

NOTE

Hydraulic cylinder and assembled details must be supported by hand during this operation.

(2) Attach hydraulic cylinder to assembled details, view BG and BH.

(3) Activate hydraulic cylinder to pull mandrel through bushing.

(4) Retract hydraulic cylinder and disassemble and remove details from aircraft.

g. Ream installed bushings per Reaming Bushings, this WP.

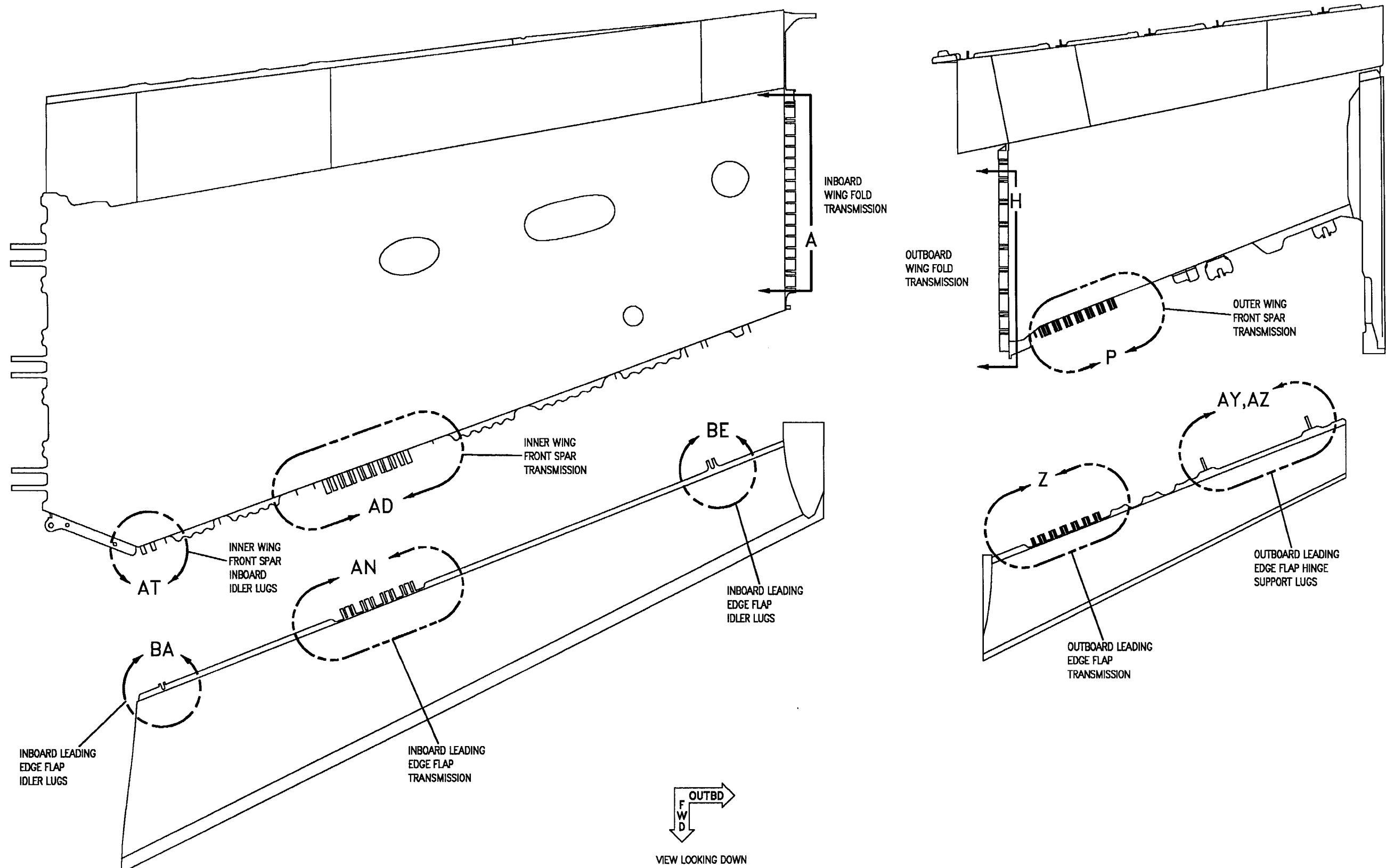
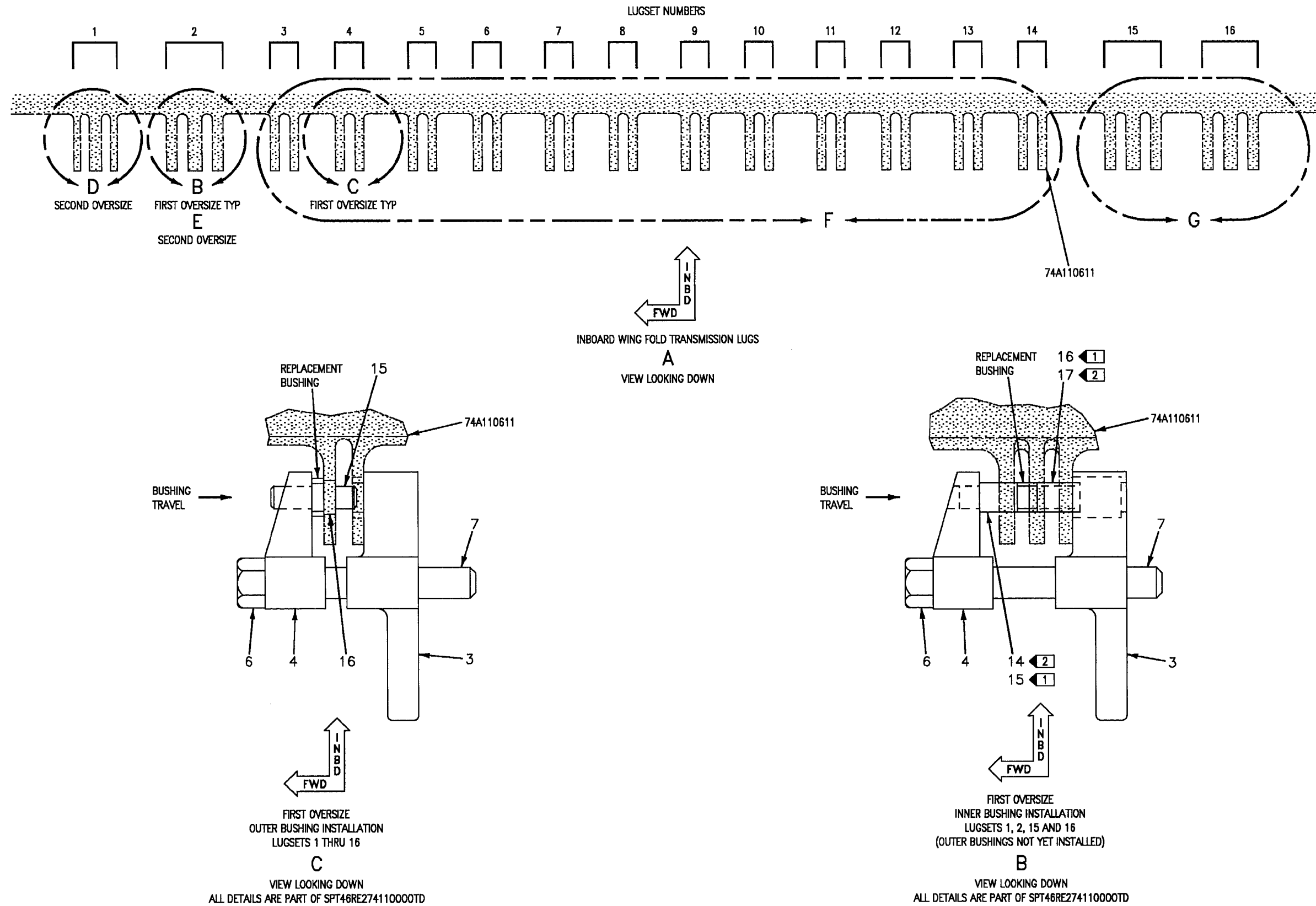


Figure 3. Bushing Installation (Sheet 1)



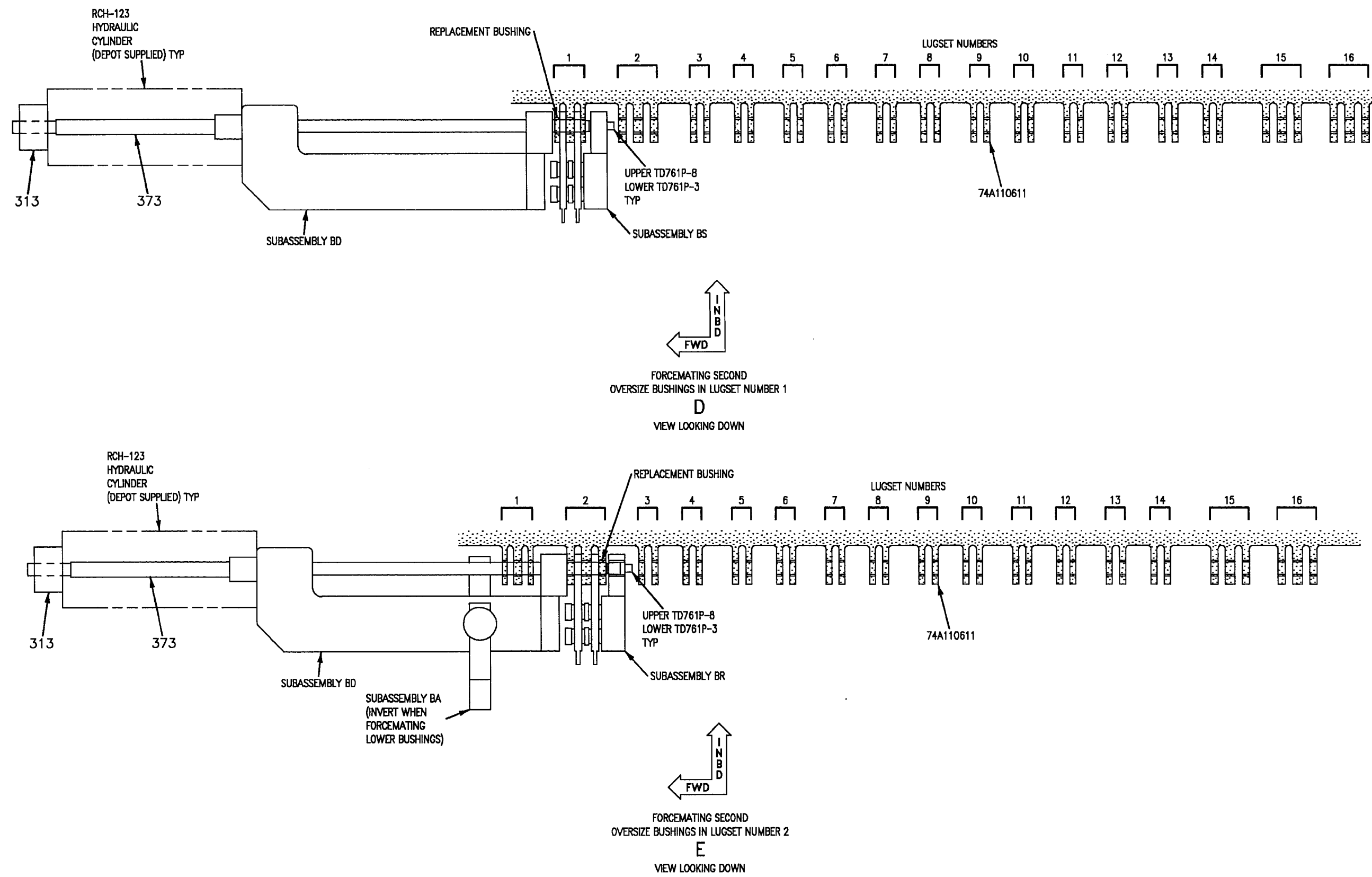


Figure 3. Bushing Installation (Sheet 3)

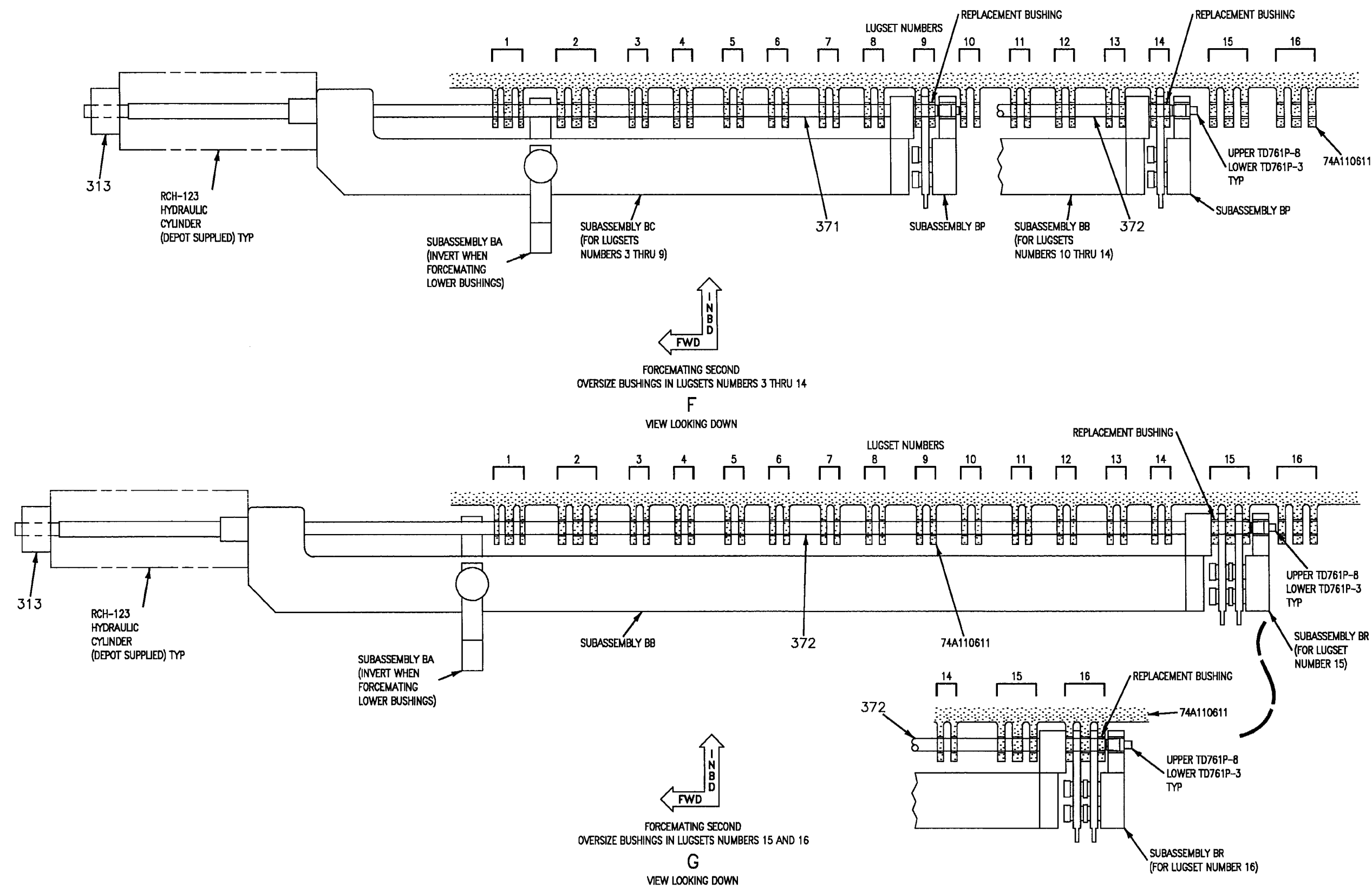


Figure 3. Bushing Installation (Sheet 4)

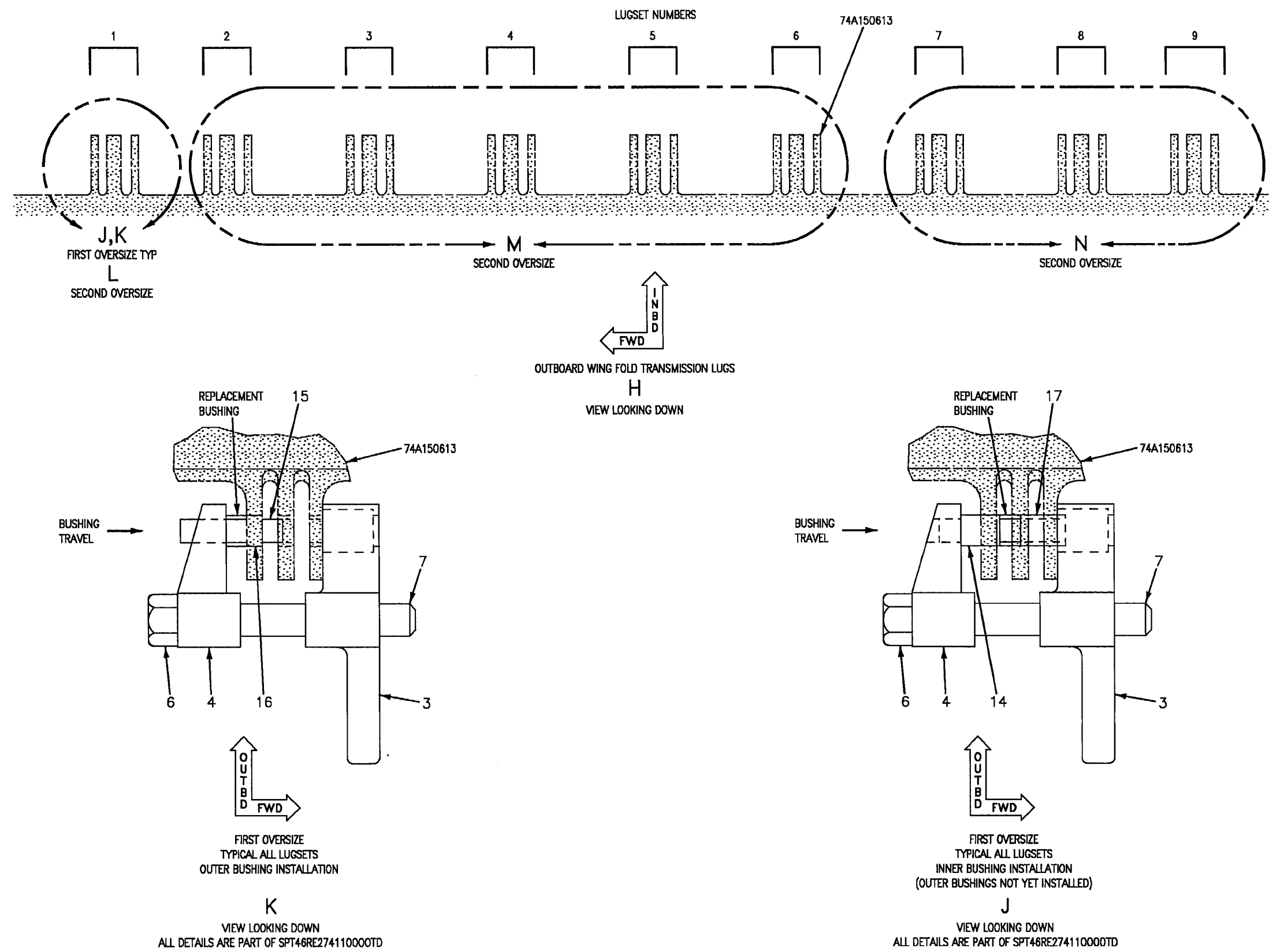


Figure 3. Bushing Installation (Sheet 5)

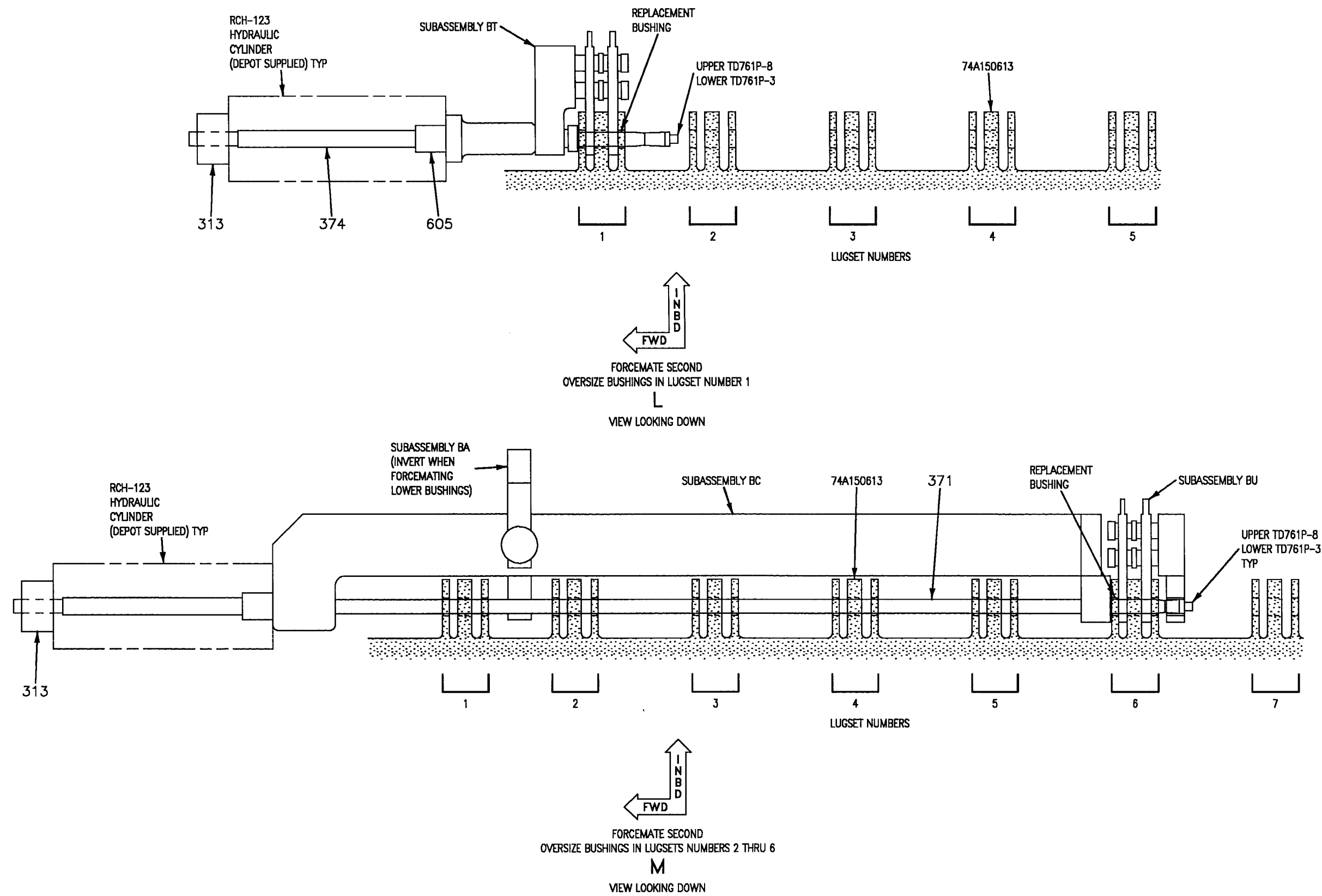


Figure 3. Bushing Installation (Sheet 6)

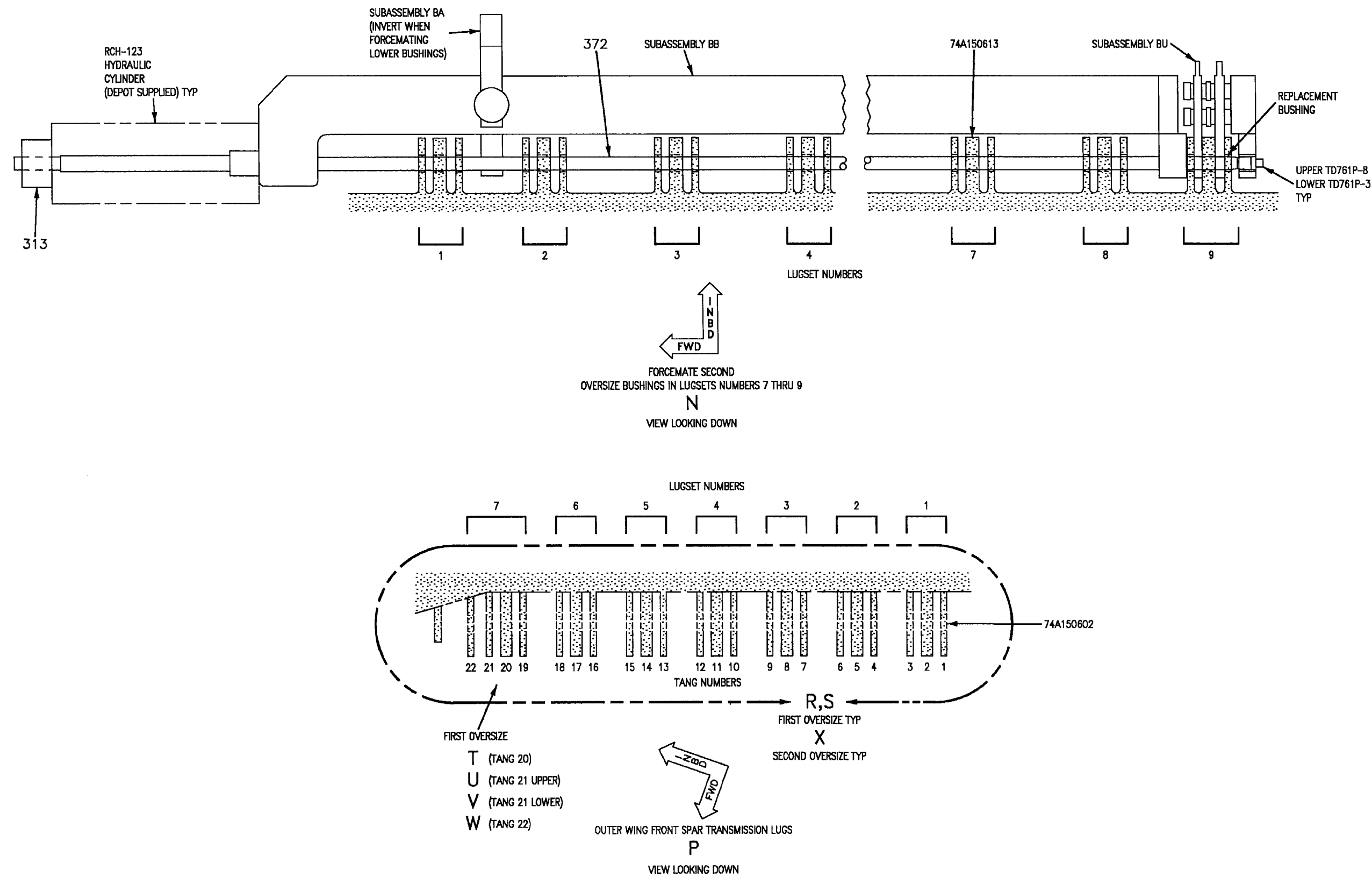


Figure 3. Bushing Installation (Sheet 7)

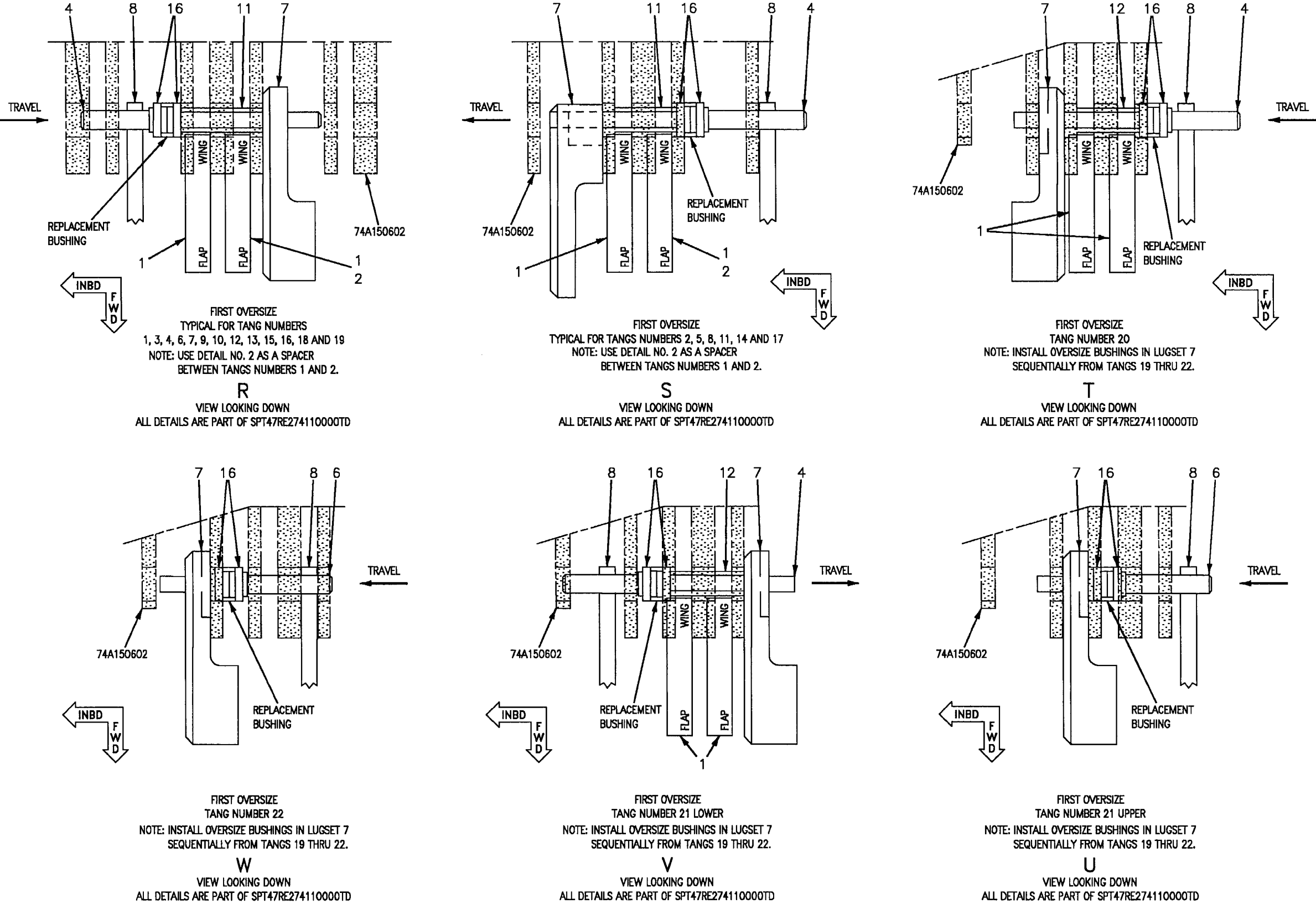


Figure 3. Bushing Installation (Sheet 8)

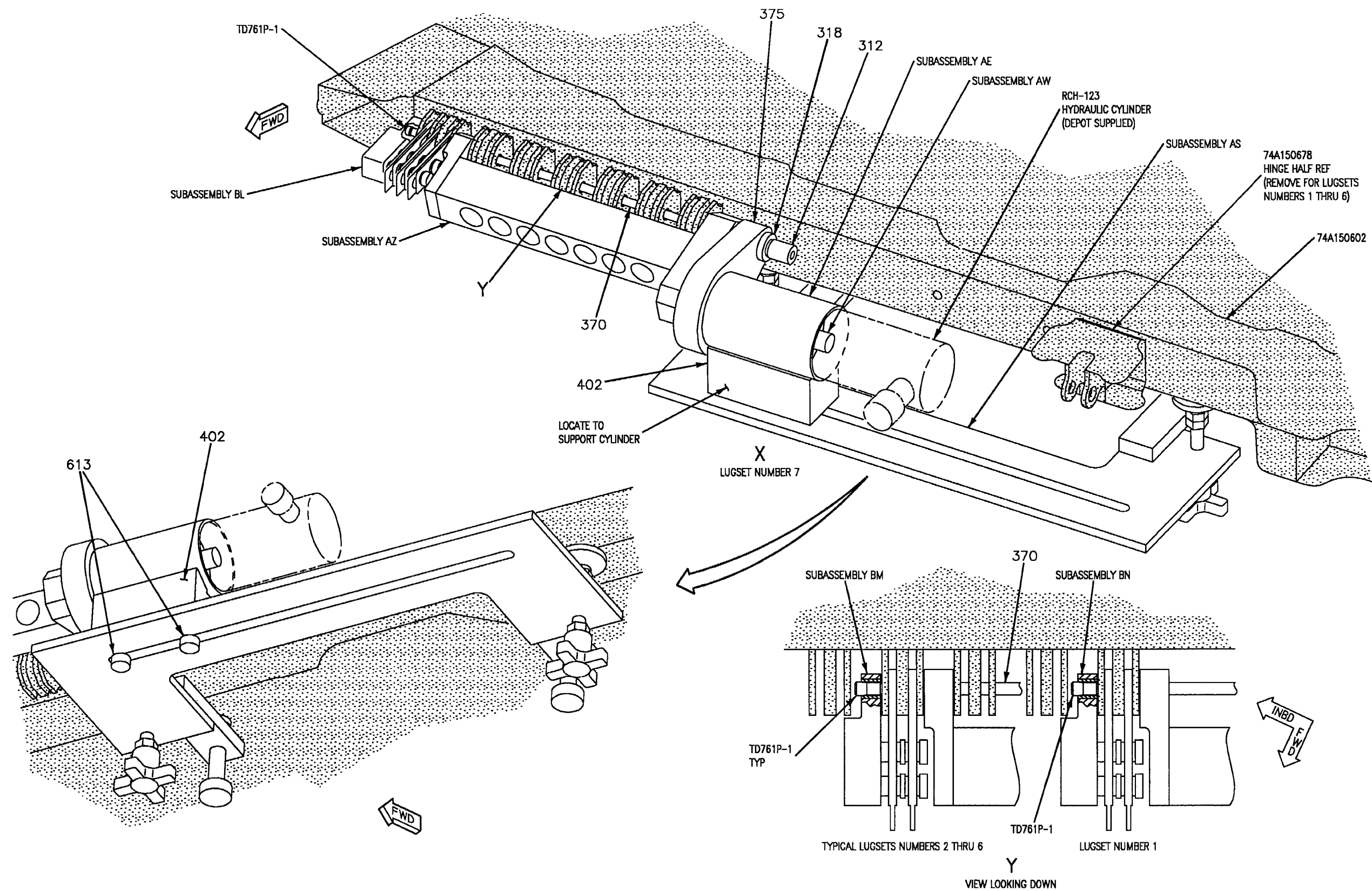


Figure 3. Bushing Installation (Sheet 9)

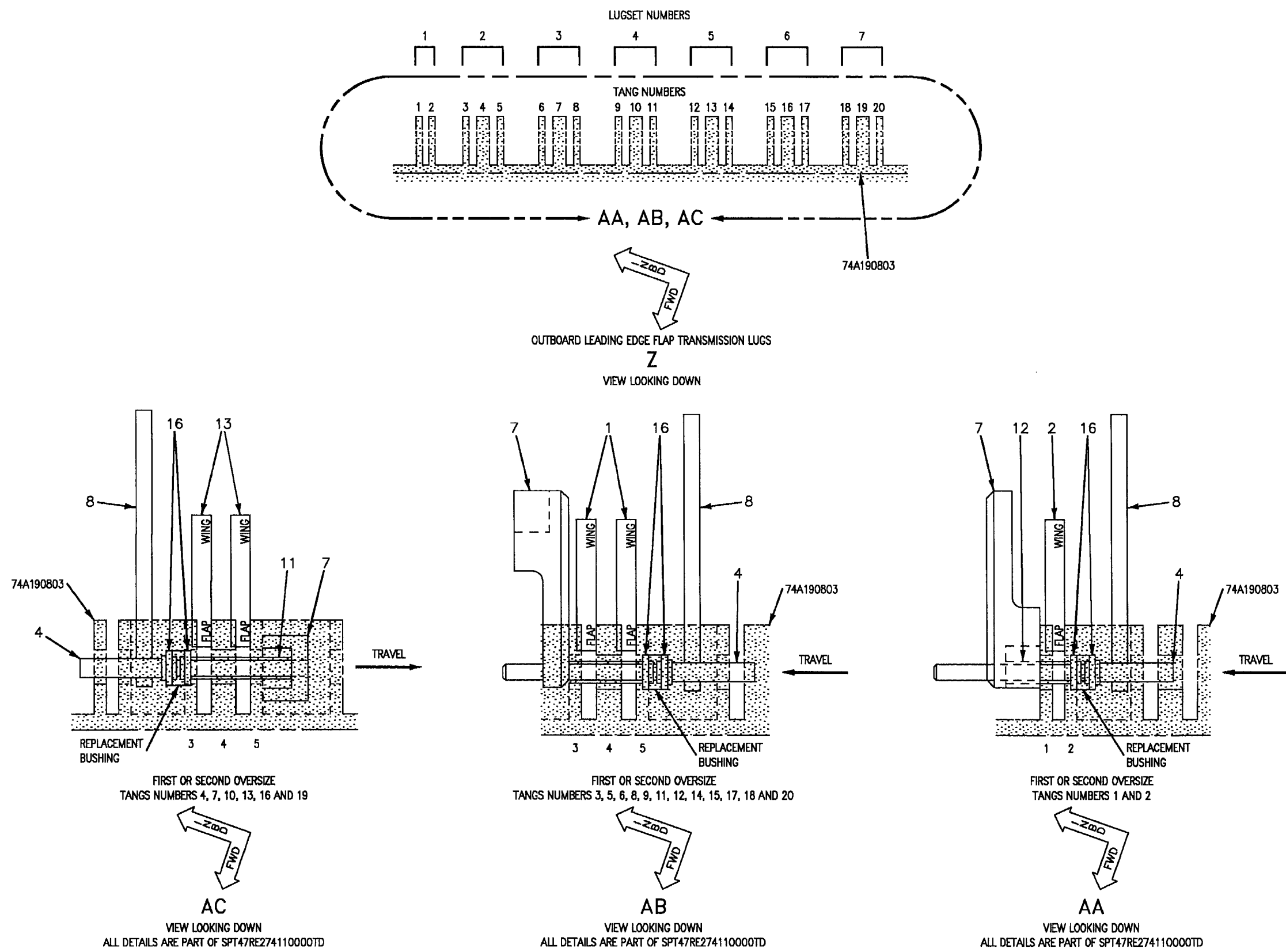


Figure 3. Bushing Installation (Sheet 10)

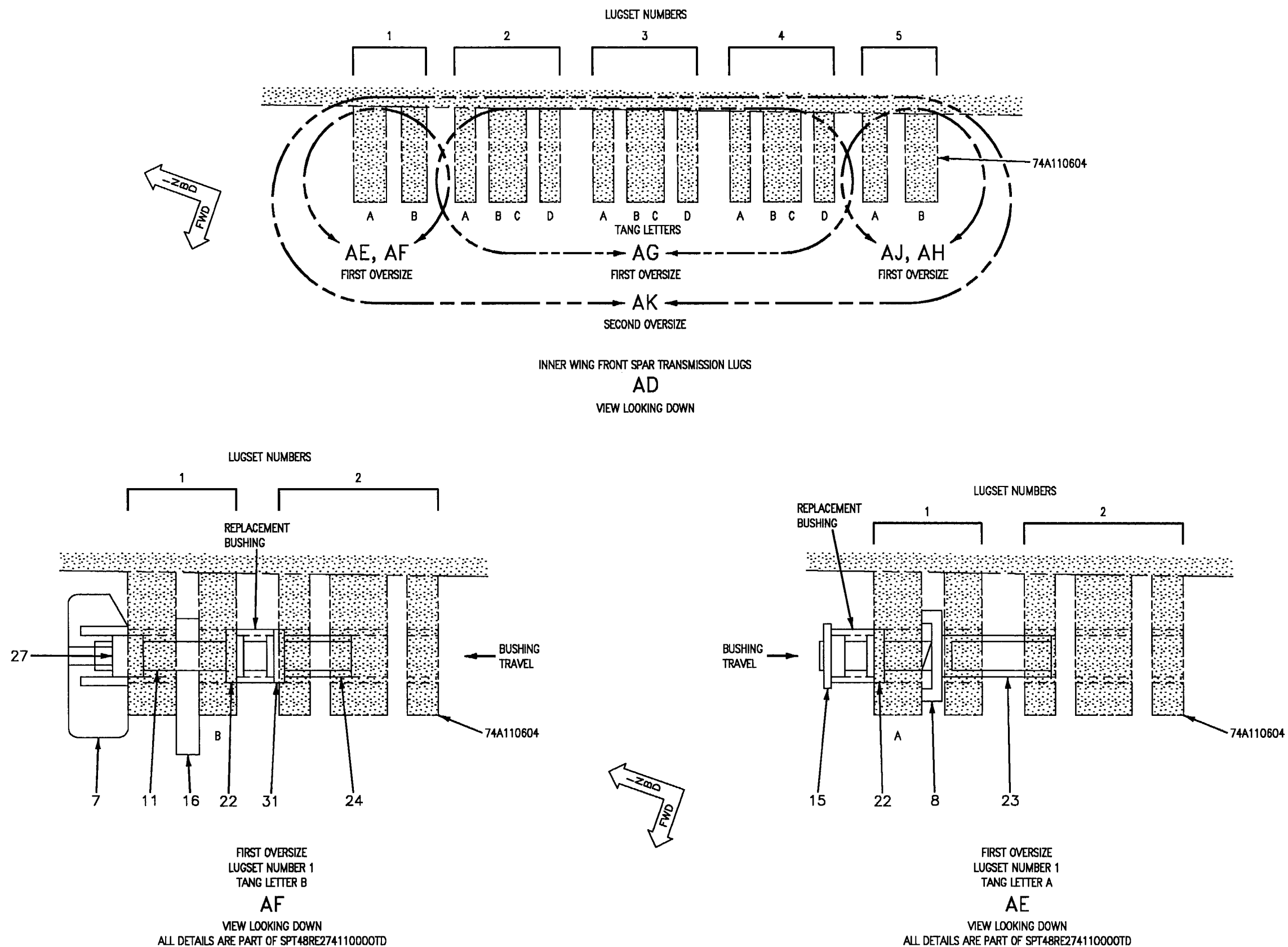


Figure 3. Bushing Installation (Sheet 11)

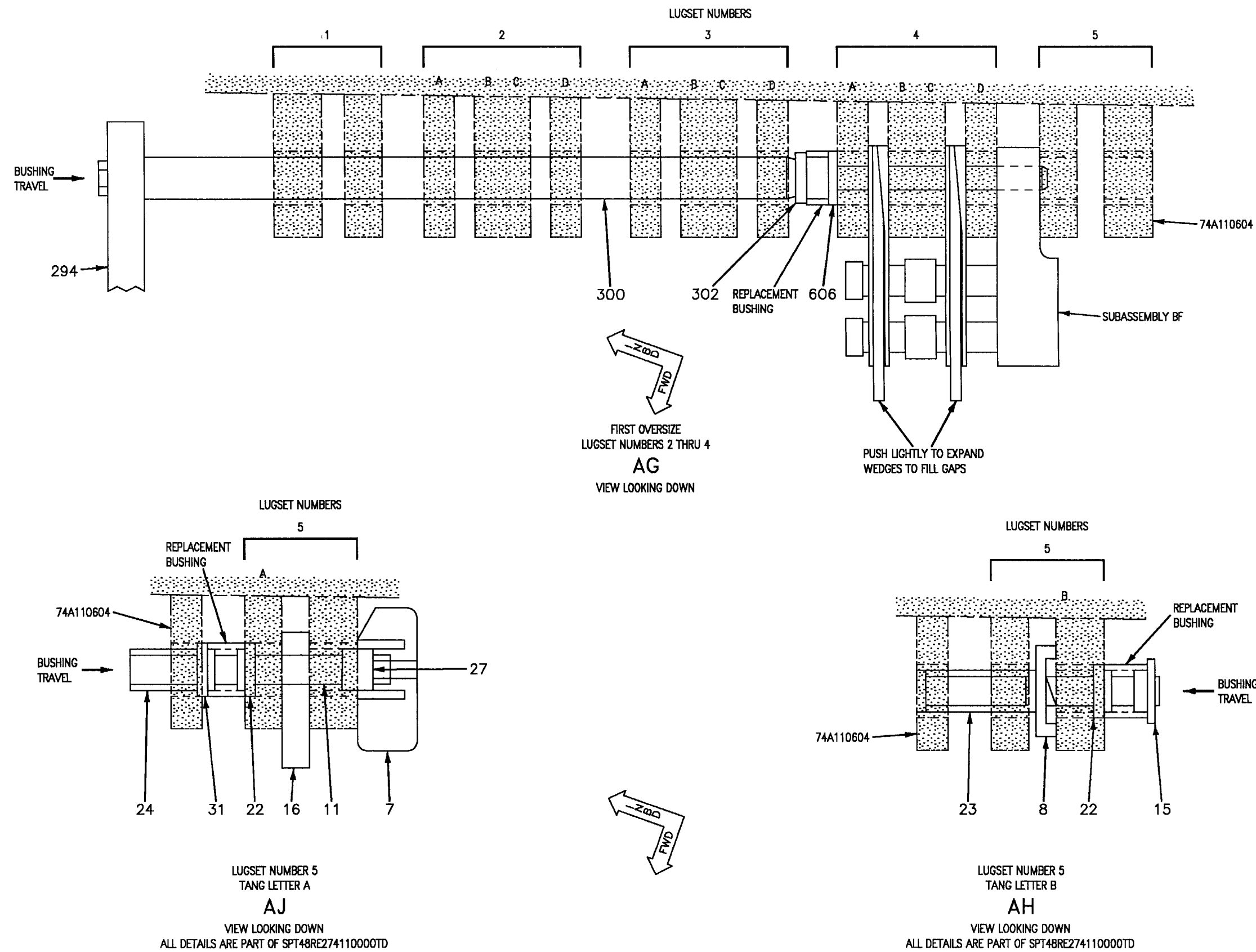


Figure 3. Bushing Installation (Sheet 12)

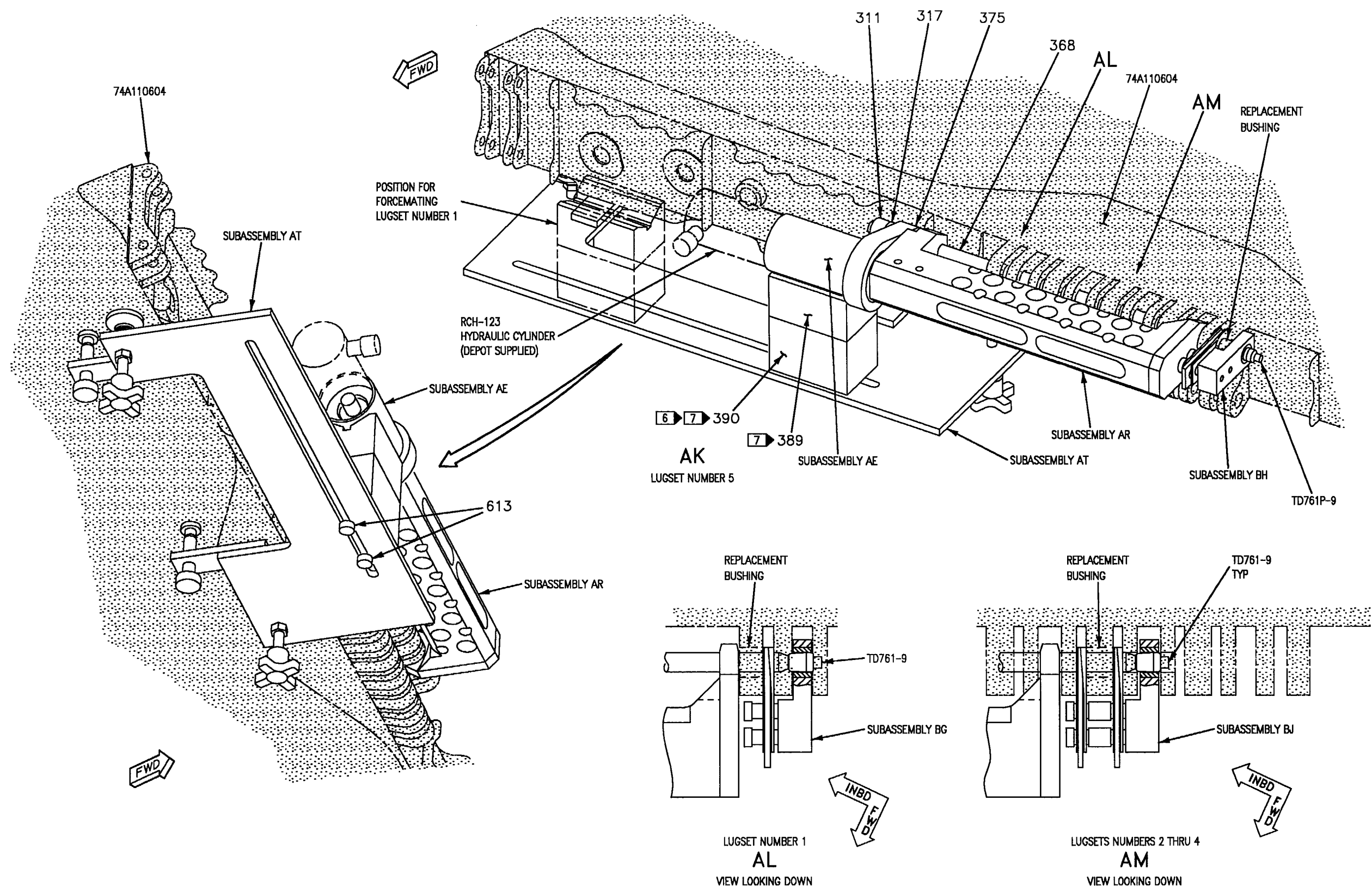


Figure 3. Bushing Installation (Sheet 13)

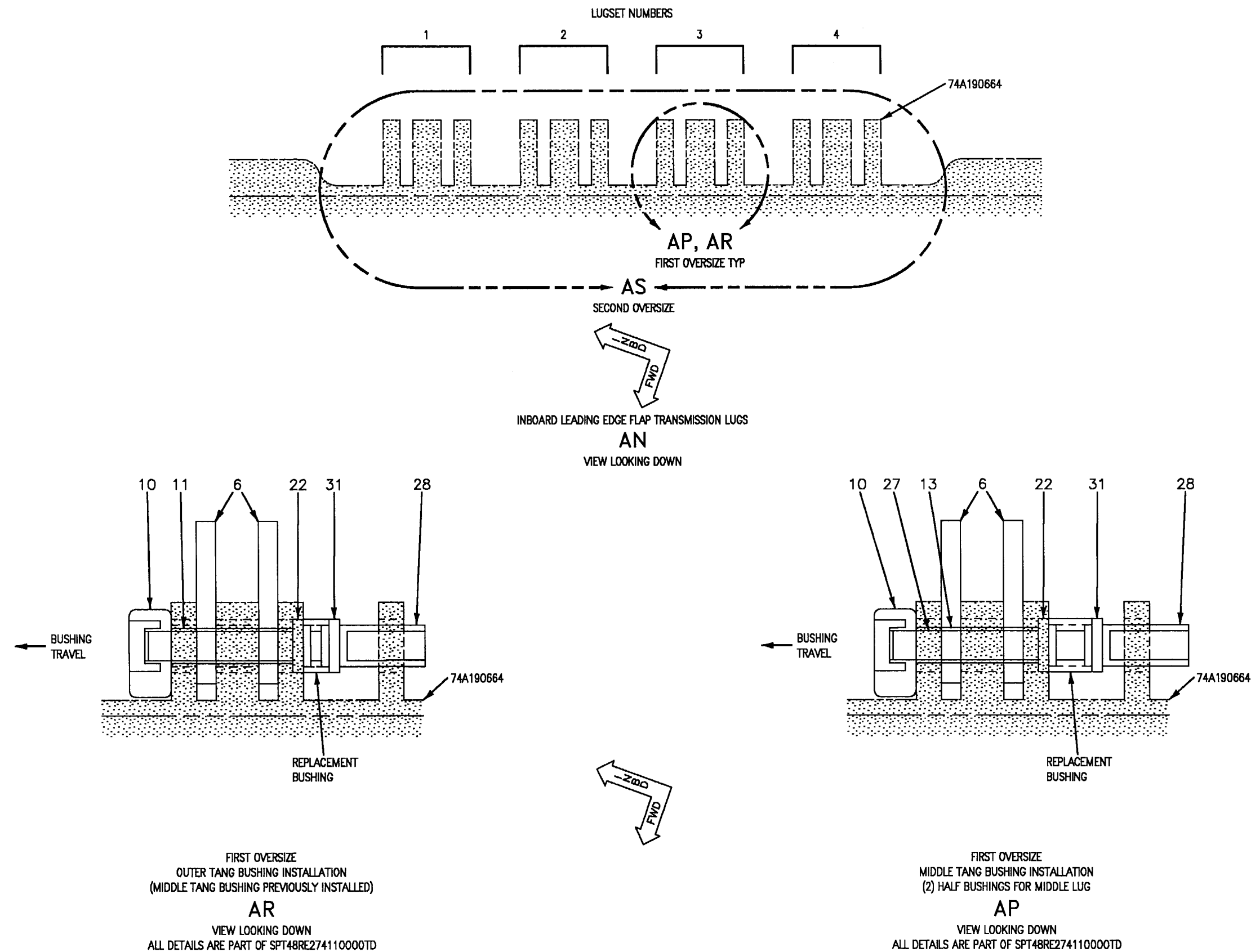


Figure 3. Bushing Installation (Sheet 14)

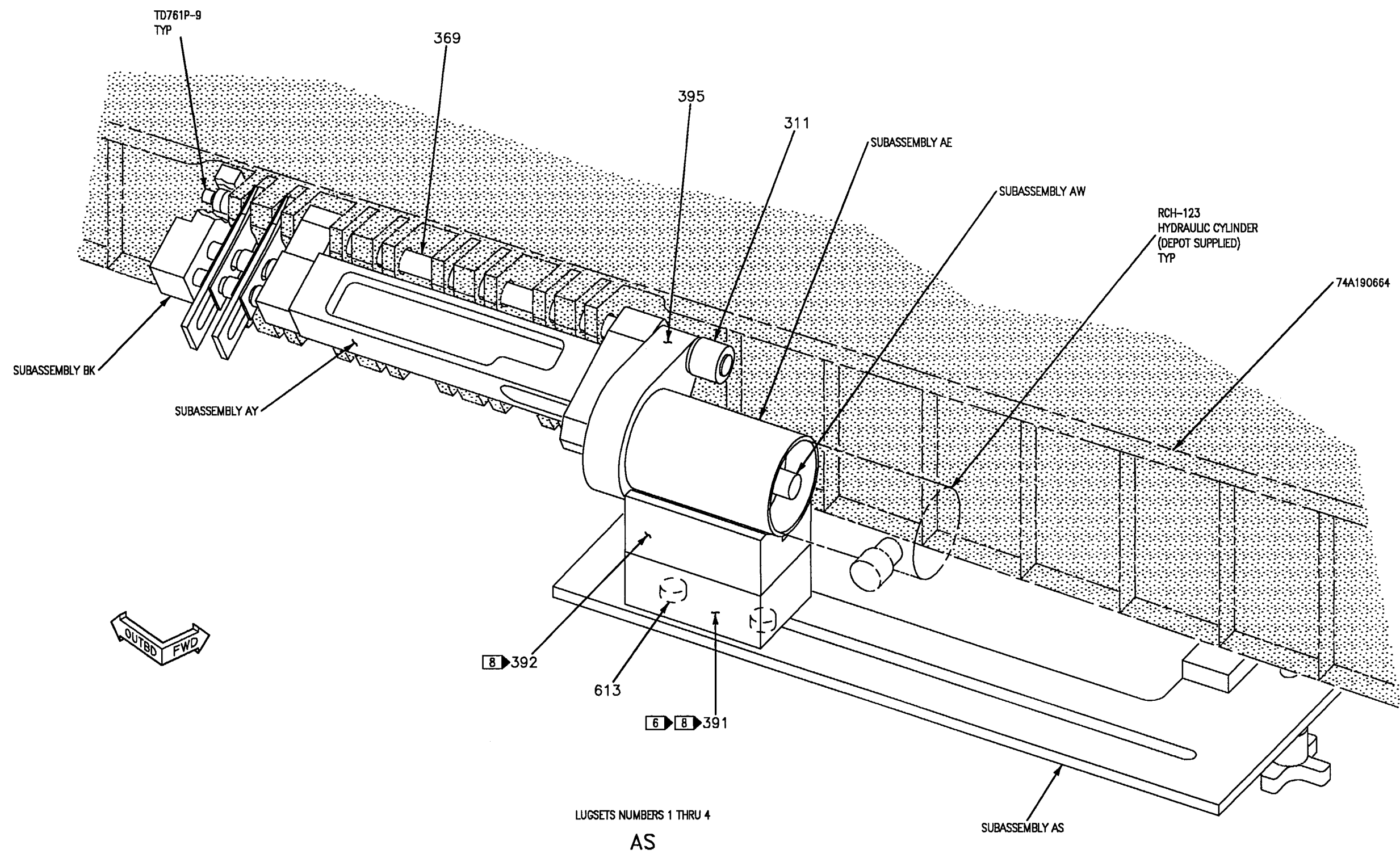


Figure 3. Bushing Installation (Sheet 15)

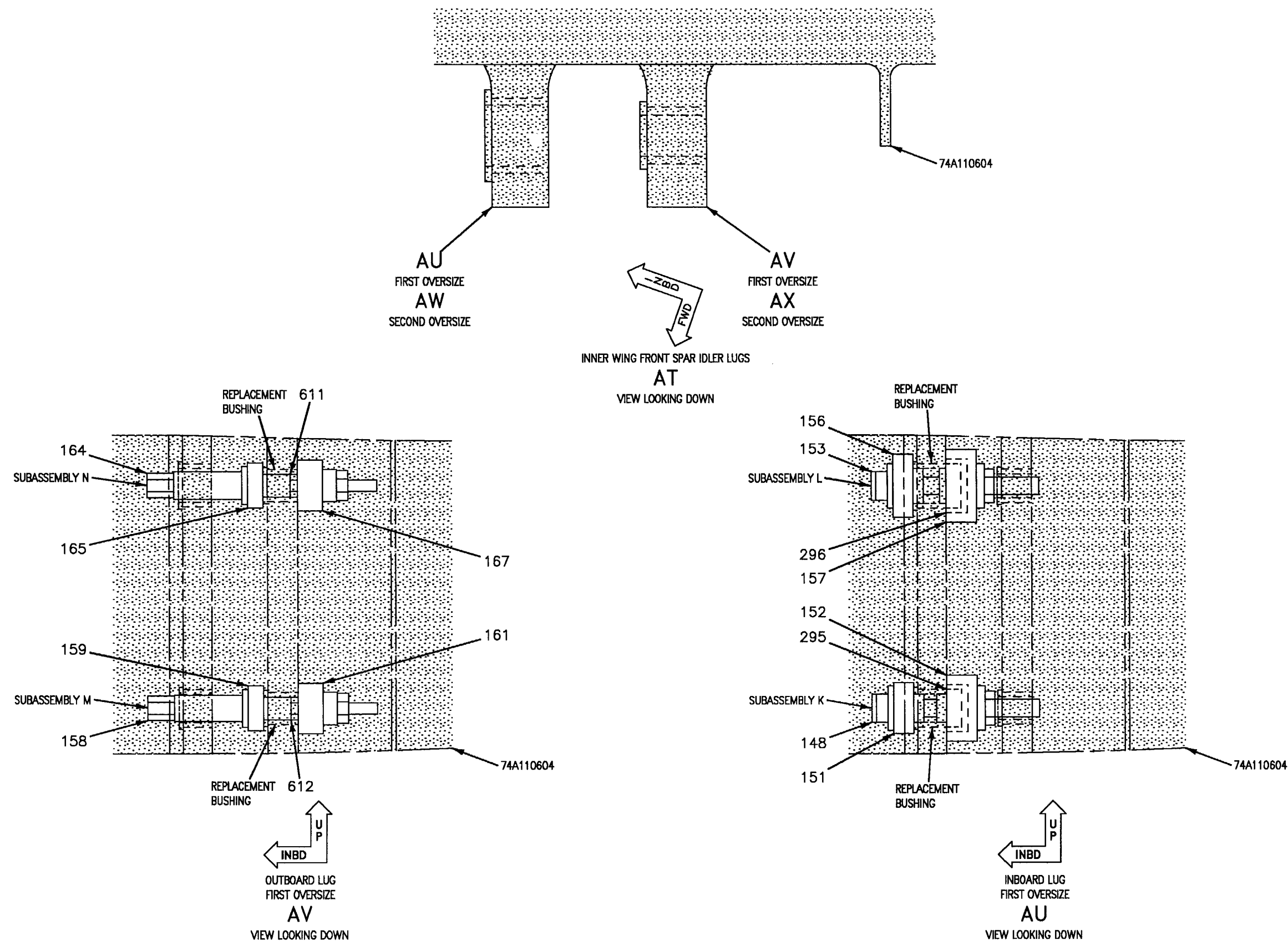
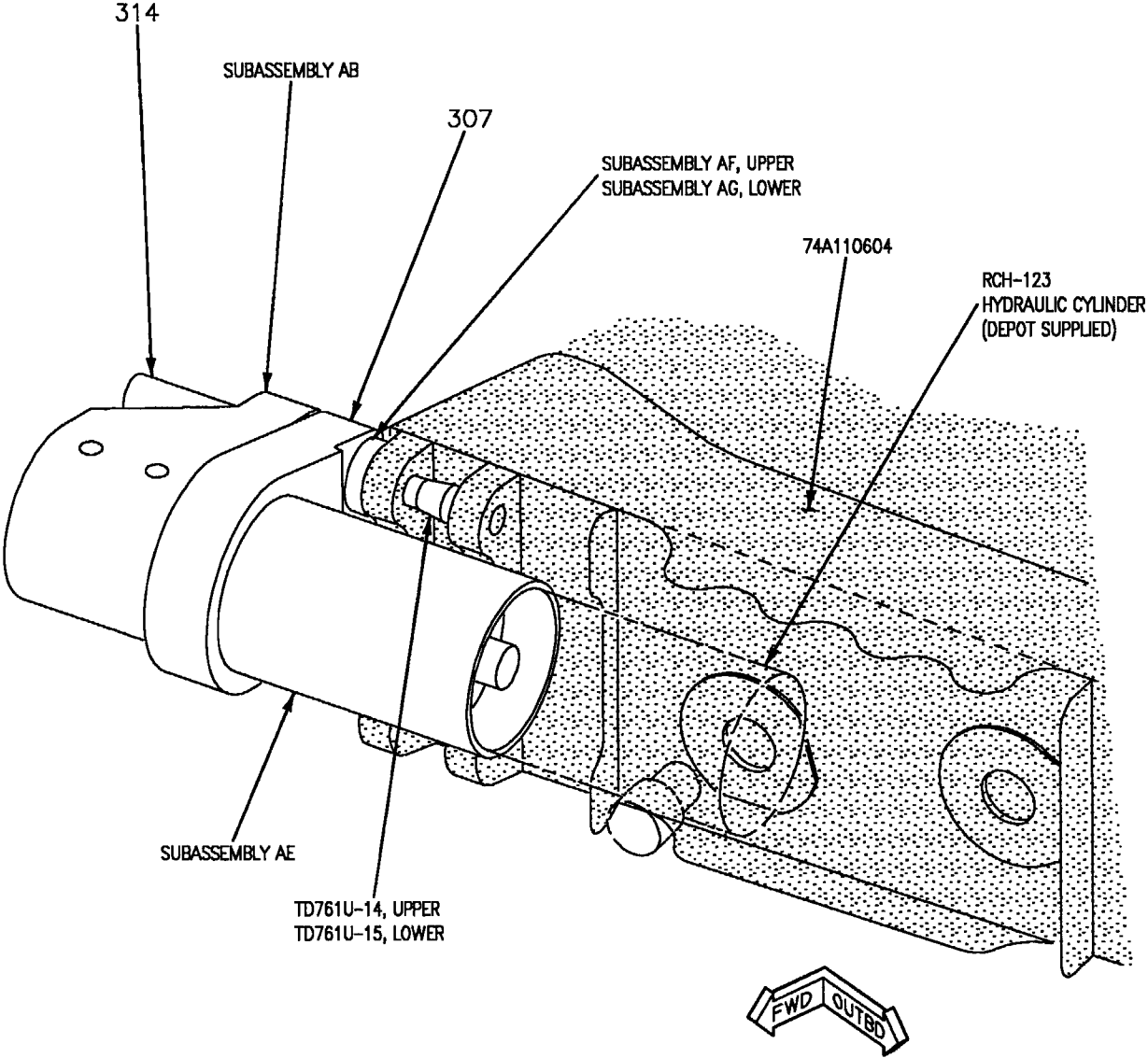
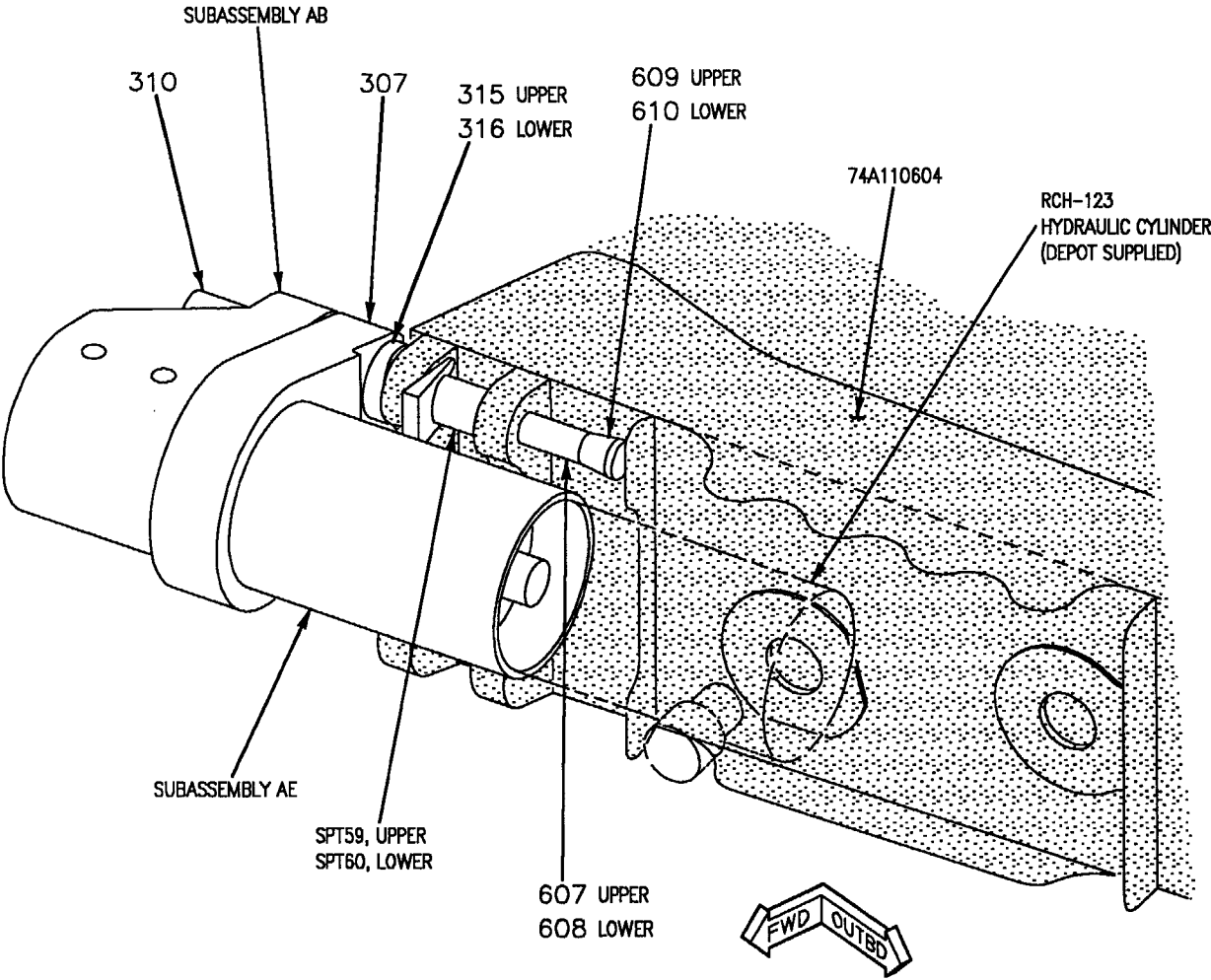


Figure 3. Bushing Installation (Sheet 16)



INBOARD LUGS
SECOND OVERSIZE
AW



OUTBOARD LUGS
SECOND OVERSIZE
AX

Figure 3. Bushing Installation (Sheet 17)

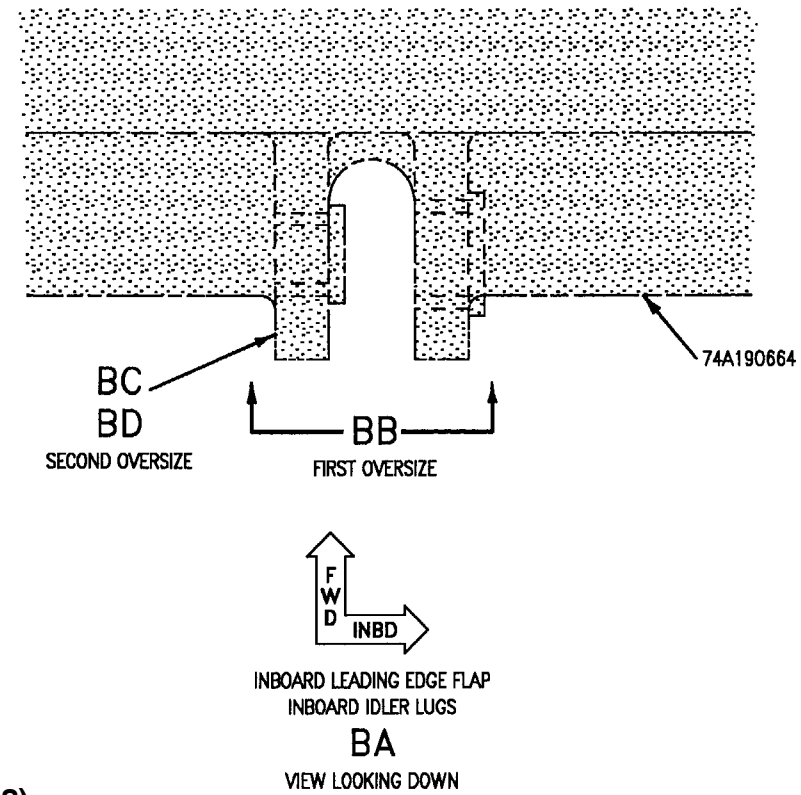
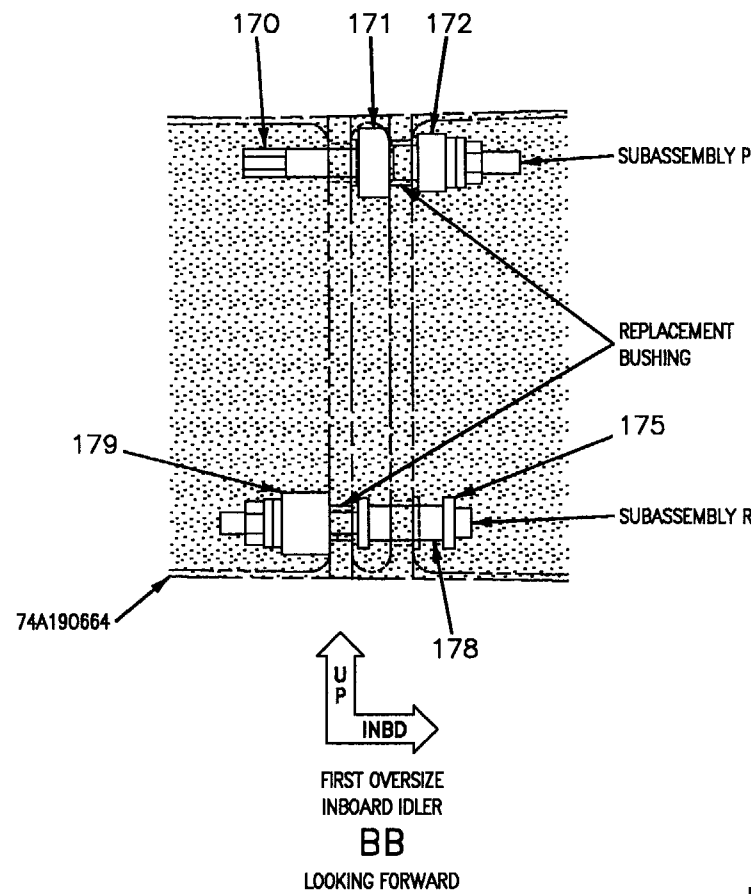
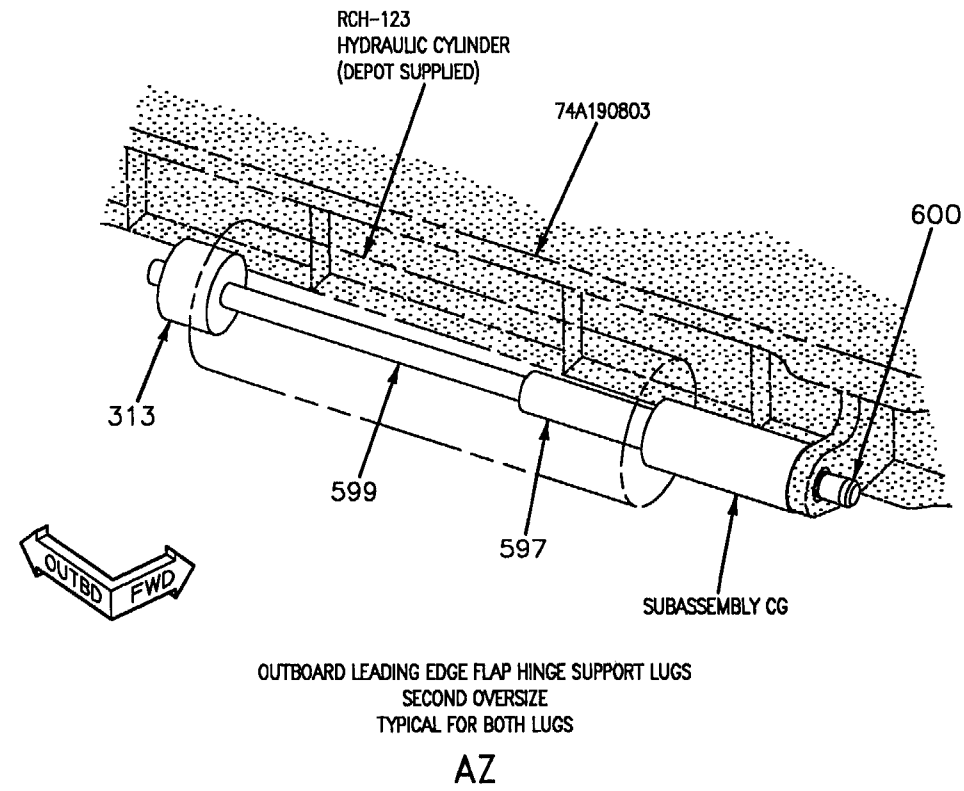
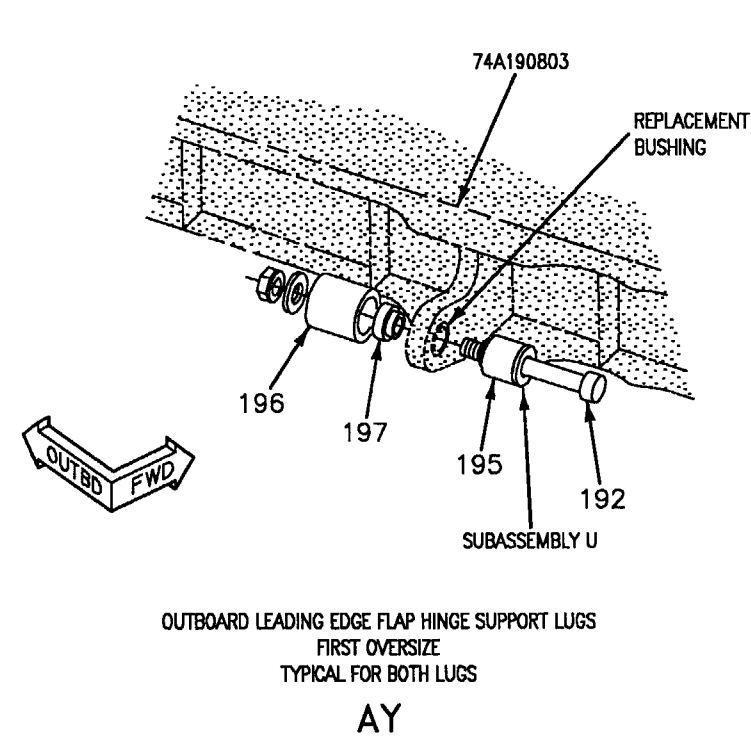


Figure 3. Bushing Installation (Sheet 18)

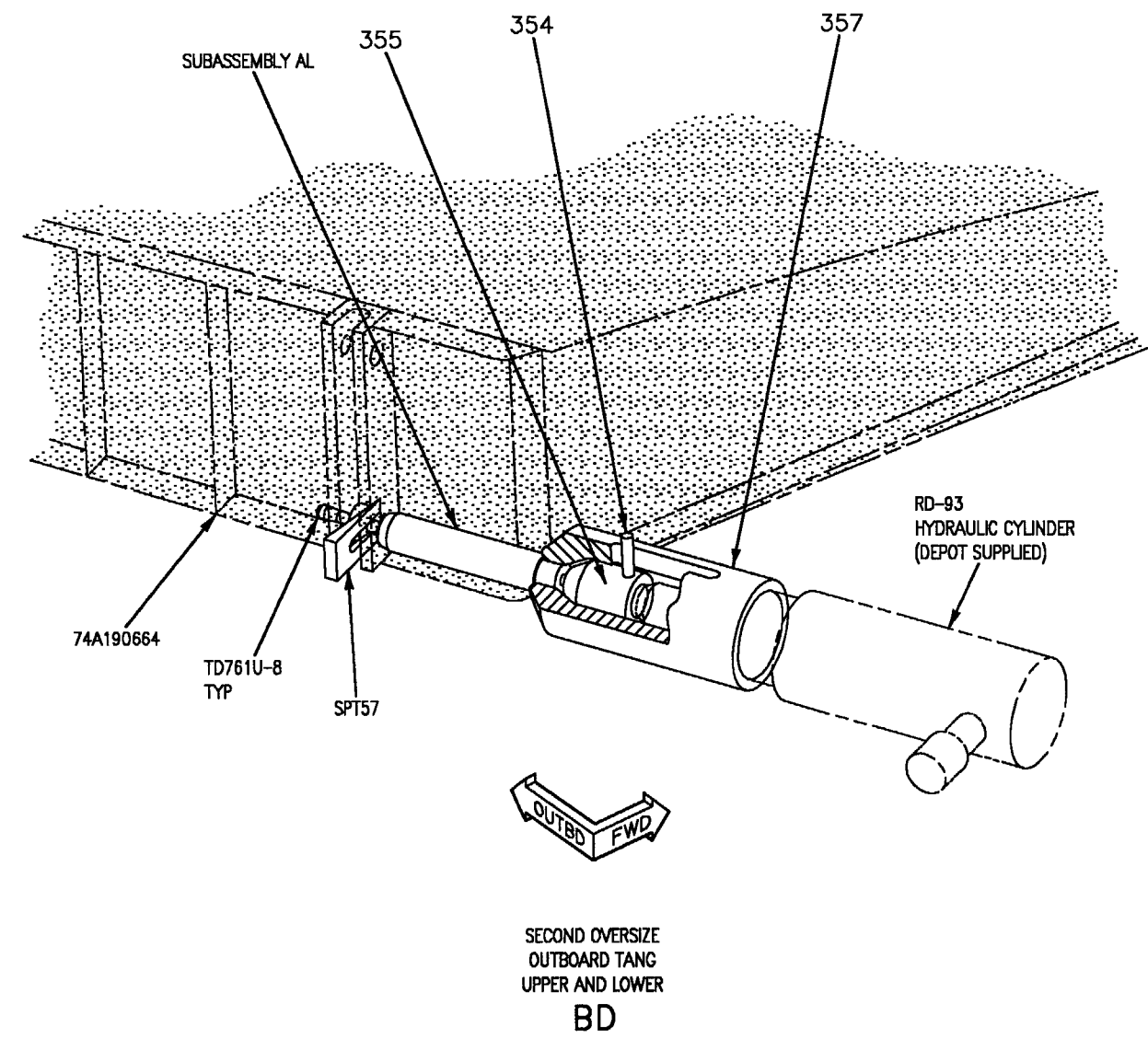
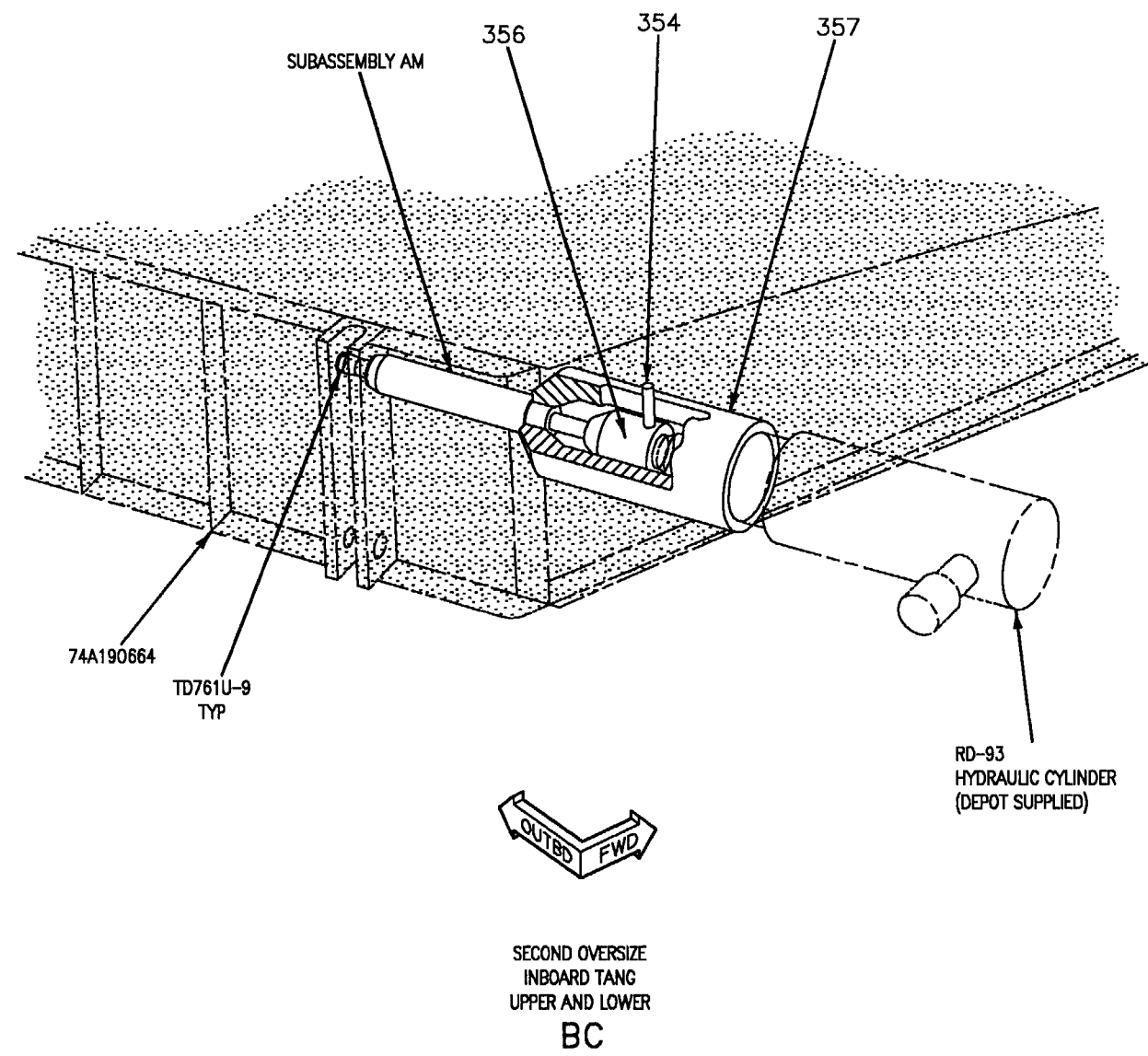


Figure 3. Bushing Installation (Sheet 19)

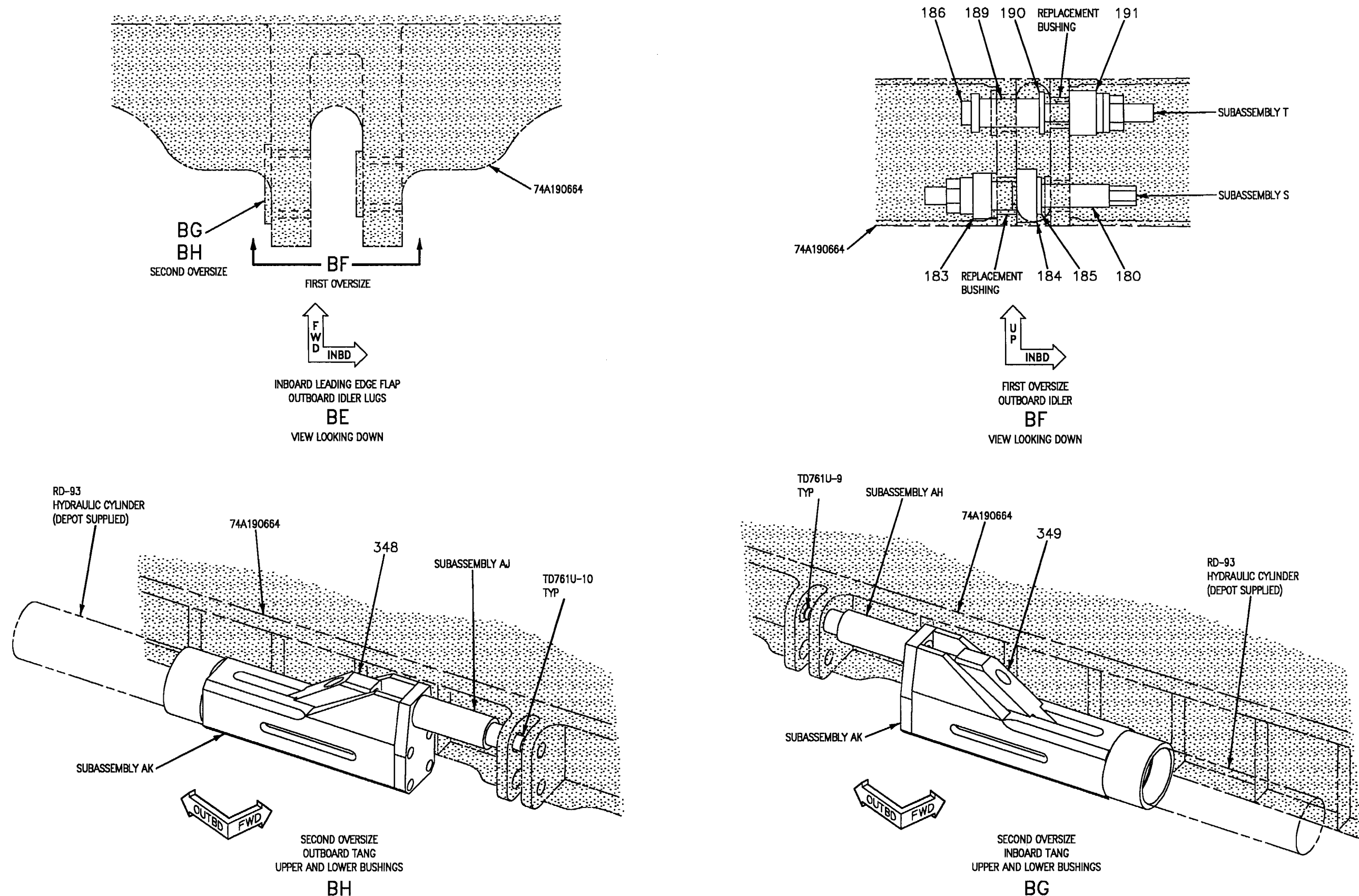


Figure 3. Bushing Installation (Sheet 20)

Detail No.	Name	Function	Box Location
SPT57	Wedge Assembly	Provides support between idler lugs during forcemating.	4
SPT59	Wedge Assembly	Provides support between upper idler lugs during forcemating.	4
SPT60	Wedge Assembly	Provides support between lower idler lugs during forcemating.	4
Subassembly K	Bushing Installation Tool	Presses bushing into inner wing front spar idler lug, lower inboard hole.	1
Subassembly L	Bushing Installation Tool	Presses bushing into inner wing front spar idler lug, upper inboard hole.	1
Subassembly M	Bushing Installation Tool	Presses bushing into inner wing front spar idler lug, lower outboard hole.	1
Subassembly N	Bushing Installation Tool	Presses bushing into inner wing front spar idler lug, upper outboard hole.	1
Subassembly P	Bushing Installation Tool	Presses bushing into inboard lug.	1
Subassembly R	Bushing Installation Tool	Presses bushing into outboard lug.	1
Subassembly S	Bushing Installation Tool	Presses bushing into outboard lug.	1
Subassembly T	Bushing Installation Tool	Presses bushing into inboard lug.	1
Subassembly U	Bushing Installation Tool	Presses bushing into support lugs.	1
Subassembly AB	Puller Assembly	Pulls extension bar to install bushing.	4
Subassembly AE	Puller Housing	Attaches hydraulic cylinder to extension bar.	4
Subassembly AF	Spacer	Sets extension bar in place for upper holes.	4
Subassembly AG	Spacer	Sets extension bar in place for lower holes.	4

Figure 3. Bushing Installation (Sheet 21)

Detail No.	Name	Function	Box Location
Subassembly AH	Extension Bar	Connects mandrel to hydraulic cylinder for inboard lug.	8
Subassembly AJ	Extension Bar	Connects mandrel to hydraulic cylinder for outboard lug.	8
Subassembly AK	Puller Housing	Attaches hydraulic cylinder to extension bar.	8
Subassembly AL	Extension Bar	Connects mandrel to hydraulic cylinder for outboard lug.	5
Subassembly AM	Extension Bar	Connects mandrel to hydraulic cylinder for inboard lug.	5
Subassembly AR	Pressure Bar	Provides solid support for hydraulic cylinder to press on.	6
Subassembly AS	Support Plate	Supports hydraulic cylinder and pulling assembly on aircraft.	7
Subassembly AT	Support Plate	Supports hydraulic cylinder and pulling assembly on aircraft.	6
Subassembly AU	Support Assembly	Supports hydraulic cylinder to align with lugs.	7
Subassembly AV	Support Assembly	Supports hydraulic cylinder to align with lugs.	7
Subassembly AW	Puller Adapter	Transfers pull of hydraulic cylinder to forcemating anvil.	7
Subassembly AY	Pressure Bar	Provides solid support for hydraulic cylinder to press on.	7
Subassembly AZ	Pressure Bar	Provides solid support for hydraulic cylinder to press on.	5
Subassembly BA	Clamp Assembly	Supports pressure bars while attached to aircraft.	8
Subassembly BB	Pressure Bar	Provides solid support for hydraulic cylinder to press on.	8
Subassembly BC	Pressure Bar	Provides solid support for hydraulic cylinder to press on.	8

Figure 3. Bushing Installation (Sheet 22)

Detail No.	Name	Function	Box Location
Subassembly BD	Pressure Bar	Provides solid support for hydraulic cylinder to press on.	8
Subassembly BF	Support Assembly	Supports lugs during forcemating.	1
Subassembly BG	Support Assembly	Supports lugs during forcemating.	4
Subassembly BH	Support Assembly	Supports lugs during forcemating.	4
Subassembly BJ	Support Assembly	Supports lugs during forcemating.	4
Subassembly BK	Support Assembly	Supports lugs during forcemating.	4
Subassembly BL	Support Assembly	Supports lugs during forcemating.	4
Subassembly BM	Support Assembly	Supports lugs during forcemating.	4
Subassembly BN	Support Assembly	Supports lugs during forcemating.	4
Subassembly BP	Support Assembly	Supports lugs during forcemating.	4
Subassembly BR	Support Assembly	Supports lugs during forcemating.	4
Subassembly BS	Support Assembly	Supports lugs during forcemating.	4
Subassembly BT	Support Assembly	Supports lugs during forcemating.	4
Subassembly BU	Support Assembly	Supports lugs during forcemating.	4
Subassembly CG	Pressure Bar	Provides solid support for hydraulic cylinder to press on.	9
TD761P-1	Mandrel	Pulls through bushing to forcemate bushing into lug.	4
TD761P-3	Mandrel	Pulls through bushing to forcemate bushing into lug.	4

Figure 3. Bushing Installation (Sheet 23)



















Detail No.	Name	Function	Box Location
TD761P-8	Mandrel	Pulls through bushing to forcemate bushing into lug.	4
TD761P-9	Mandrel	Pulls through bushing to forcemate bushing into lug.	4
TD761P-10	Mandrel	Pulls through bushing to forcemate bushing into lug.	4
TD761P-14	Mandrel	Pulls through bushing to forcemate bushing into lug.	4
TD761P-15	Mandrel	Pulls through bushing to forcemate bushing into lug.	4
1 	Spacer Plate	Provides support between tangs.	1 or 9
2 	Spacer Plate	Provides support between.	1 or 9
3 	Retainer Block	Provides support for installing bushing into lugset.	1 or 9
4 	Block	Retains anvil and provides pressure to install bushing.	1 or 9
4 	Extension Bar	Used to press bushing into lug.	1 or 9
6 	Bolt	Used to press bushing into lug.	1 or 9
6 	Extension Bar	Used to press bushing into lug.	1 or 9
6 	Spacer Plate	Provides support between tangs.	1 or 9
7 	Guide Pin	Guides moving part of SPT46 during bushing installation.	1 or 9
7 	Retainer Block	Provides support for installing bushing into lugset.	1 or 9
7 	Retainer Block	Provides support for installing bushing into tangs.	1 or 9
8 	Ratchet Wrench	Used to turn extension bar to install bushing.	1 or 9
8 	Retainer Block	Provides support for installing bushing into tangs.	1 or 9
10 	Retainer Block	Provides support for installation bushing into lugset.	1 or 9
11 	Alignment Fitting	Provides alignment for installing bushings into tangs.	1 or 9
11 	Extension Bar	Connects hydraulic cylinder to anvil.	1 or 9
12 	Alignment Fitting	Provides alignment for installing bushings into tangs.	1 or 9
13 	Spacer Plate	Provides support between tangs.	1 or 9

Figure 3. Bushing Installation (Sheet 24)























Detail No.	Name	Function	Box Location
14 	Anvil	Presses bushing into lug.	1 or 9
15 	Anvil	Presses bushing into lug.	1 or 9
15 	Anvil	Presses bushings into lugs.	1 or 9
16 	Spacer	Aligns anvil with bushing hole.	1 or 9
16 	Spacer	Provides support for installation bushings.	1 or 9
16 	Spacer Plate	Provides support between tangs.	1 or 9
17 	Spacer	Aligns anvil with bushing hole.	1 or 9
22 	Anvil	Guides bushing into lugs.	1 or 9
23 	Extension Bar	Used to press bushing into lug.	1 or 9
24 	Extension Bar	Used to press bushing into lug.	1 or 9
27 	Spacer	Aligns anvil with bushing hole.	1 or 9
28 	Extension Bar	Used to press bushing into lug.	1 or 9
31 	Anvil	Guides bushing into lug.	1 or 9
148 	Bolt	Used to press bushing into lug.	1
151 	Anvil	Presses bushing into lug.	1
152 	Block	Backs up anvil for bushing installation.	1
153 	Bolt	Used to press bushing into lug.	1
156 	Anvil	Presses bushing into lug.	1
157 	Block	Backs up anvil for bushing installation.	1
158 	Bolt	Used to press bushing into lug.	1
159 	Anvil	Presses bushing into lug.	1
161 	Stop	Provides stopping point for bushing installation.	1

Figure 3. Bushing Installation (Sheet 25)
























Detail No.	Name	Function	Box Location
164 	Bolt	Provides pressure to install bushing.	1
165 	Anvil	Presses bushing into lug.	1
167 	Stop	Provides stopping point for bushing installation.	1
170 	Bolt	Used to press bushing into lug.	1
171 	Block	Backs up anvil for bushing installation.	1
172 	Anvil	Presses bushing into lug.	1
175 	Bolt	Used to press bushing into lug.	1
178 	Anvil	Presses bushing into lug.	1
179 	Block	Backs up anvil for bushing installation.	1
180 	Bolt	Used to press bushing into lug.	1
183 	Anvil	Presses bushing into lug.	1
184 	Block	Backs up anvil for bushing installation.	1
185 	Spacer	Aligns anvil and bushing during installation.	1
186 	Bolt	Provides pressure to install bushing.	1
189 	Anvil	Presses bushing into lug.	1
190 	Spacer	Aligns anvil and bushing during installation.	1
191 	Block	Backs up anvil for bushing installation.	1
192 	Bolt	Used to press bushing into lug.	1
195 	Stop	Provides stopping point for bushing installation.	1
196 	Alignment Fitting	Provides alignment for installing bushing.	1
197 	Anvil	Presses bushing into lug.	1
294	Ratchet Wrench	Use to turn extension bar to install bushing.	1 or 9
295 	Anvil	Presses bushing into lug.	1
296 	Anvil	Presses bushing into lug.	1

Figure 3. Bushing Installation (Sheet 26)

Detail No.	Name	Function	Box Location
300	Extension Bar	Connects hydraulic cylinder to anvil.	1
307	Puller Fitting	Pulls extension bar to install bushing.	4
310	Retaining Knob	Attaches extension bar to hydraulic cylinder.	4
311	Retaining Knob	Attaches extension bar to hydraulic cylinder.	4
312	Retaining Knob	Attaches extension bar to hydraulic cylinder.	4
313	Retaining Knob	Attaches extension bar to hydraulic cylinder.	4
314	Retaining Knob	Attaches extension bar to hydraulic cylinder.	4
315	Spacer	Sets extension bar in place for upper holes.	4
316	Spacer	Sets extension bar in place for lower holes.	4
317	Spacer	Sets extension bar in place.	4
318	Spacer	Sets extension bar in place.	4
348	Connector	Connects extension bar to hydraulic cylinder for outboard lug.	8
349	Connector	Connects extension bar to hydraulic cylinder for inboard lug.	8
354	Pin	Used to move connector into position.	5
355	Connector	Connects extension bar to puller assembly for outboard lug.	5
356	Connector	Connects extension bar to puller assembly for inboard lug.	5
357	Puller Housing	Attaches hydraulic cylinder to extension bar.	5
368	Extension Bar	Connects hydraulic cylinder to mandrel.	4
369	Extension Bar	Connects hydraulic cylinder to mandrel.	4
370	Extension Bar	Connects hydraulic cylinder to mandrel.	4
371	Extension Bar	Connects hydraulic cylinder to mandrel.	4
372	Extension Bar	Connects hydraulic cylinder to mandrel.	4

Figure 3. Bushing Installation (Sheet 27)









Detail No.	Name	Function	Box Location
373	Extension Bar	Connects hydraulic cylinder to mandrel.	4
374	Extension Bar	Connects hydraulic cylinder to mandrel.	4
375	Puller Fitting	Pulls extension bar to install bushings.	4
389 	V-Block	Aligns and supports hydraulic with pressure bar.	7
390  	Support Block	Aligns V-block with upper bushing holes.	7
391  	Support Block	Aligns V-block with upper bushing holes.	7
392 	V-Block	Aligns and supports hydraulic with pressure bar.	7
395	Puller Fitting	Pulls extension bar to install bushings.	4
402	Support Block	Aligns V-block with upper bushing holes.	5
597	Adapter	Connects extension bar to hydraulic cylinder.	9
599	Extension Bar	Connects hydraulic cylinder to mandrel.	9
600	Mandrel	Forcemates bushings into lugs.	4
605	Adapter	Locates hydraulic cylinder for lugset 1.	8
606	Anvil	Presses bushings into lugs.	1 or 9
607	Extension	Connects mandrel with hydraulic cylinder for upper holes.	4
608	Extension	Connects mandrel with hydraulic cylinder for lower holes.	4
609	Mandrel	Forcemates upper bushings into lugs.	4
610	Mandrel	Forcemates lower bushings into lugs.	4
611 	Alignment Fitting	Provides alignment with bushing hole.	1
612 	Alignment Fitting	Provides alignment with bushing hole.	1
613	Shoulder Screw	Secures location of cylinder support block.	7

Figure 3. Bushing Installation (Sheet 28)

Detail No.	Name	Function	Box Location
LEGEND			
1		Used to press bushing half way into middle lug.	
2		Used to press bushing from half way to completely installed.	
3		Detail of SPT46RE274110000TD.	
4		Detail of SPT47RE274110000TD.	
5		Detail of SPT48RE274110000TD.	
6		Use when forcemating upper lug holes.	
7		Detail of subassembly AU.	
8		Detail of subassembly AV.	
9		Detail of subassembly N.	
10		Detail of subassembly M.	
11		Detail of subassembly L.	
12		Detail of subassembly K.	
13		Detail of subassembly P.	
14		Detail of subassembly R.	
15		Detail of subassembly T.	
16		Detail of subassembly S.	
17		Detail of subassembly U.	

Figure 3. Bushing Installation (Sheet 29)

31. REAMING BUSHINGS. See figure 4.

Support Equipment Required

Part Number or Type Designation	Nomenclature
RE274110000-1	Wing Transmission Lug Bushing Tool Kit

Materials Required

Specification or Part Number	Nomenclature
ISOPAR M	Coolant, Cutting Fluid

NOTE

During reaming operation clean cutter flutes after each 1/16th of an inch of travel.

Cutter operations are piloted using undamaged installed bushings in adjacent lug sets. Repair one lug set completely before removing bushings from adjacent lug sets.

32. INBOARD OR OUTBOARD WING FOLD TRANSMISSION LUGS.

a. Remove damaged bushings per Bushing Removal, this WP.

NOTE

If more than one lug set has damaged bushings, repair the lug sets in sequence, forward to aft, one lug set at a time.

b. For inboard wing fold lugs:

(1) Determine lug set number to be repaired, view A.

(2) Assemble and install details of tool kit as applicable to match part configuration, views B through H.



Make sure cutter flutes do not contact adjacent lug set after reamer exits last lug to be reamed or damaged or damage to the lug set could occur.

NOTE

For lug sets 3 through 16, remove alignment bar, details of SPT51, for final reaming.

(4) Ream bushings by turning cutter clockwise using wrench (detail 294) while pushing aft, first pass and final ream. Back cutter out while turning clockwise to replace or remove cutter, views B through H.

(5) Remove details of tool kit from wing fold lugs.

c. For outboard wing fold lugs:

(1) Determine lug set number to be repaired, view J.

(2) Assemble and install details of tool kit as applicable to match part configuration, views K through N.



Coolant, Isopar M



32

(3) Brush apply a light coat of cutting fluid to cutter.



Make sure cutter flutes do not contact adjacent lug set after reamer exits last lug to be reamed damage to the lug set could occur.

NOTE

For lug set number 1, remove cutter from extension bar before retracting from lug set.

For lug set numbers 2 through 6, adjust alignment fitting (detail 20) until pilot of SPT40 cutter is slip fit into alignment fitting, before reaming.

(4) Ream bushings by turning cutter clockwise using wrench (detail 294) while pushing aft, first pass and final ream, views K through N.



Coolant, Isopar M



32

(3) Brush apply a light coat of cutting fluid to cutter.

(5) Remove details of tool kit from wing fold lugs.

(6) Install outer wing assembly (WP020 00).

33. OUTER WING FRONT SPAR TRANSMISSION LUGS.

a. Remove damaged bushings per Bushing Removal, this WP.

NOTE

If more than one lug set has damaged bushings, repair the lug sets in sequence, outboard to inboard, one lug set at a time.

b. Determine lug set number to be repaired, view P.

c. Assemble and install details of tool kit as applicable to match part configuration, views R through U.



Coolant, Isopar M

32

d. Brush apply a light coat of cutting fluid to cutter.



Make sure cutter flutes do not contact adjacent lug set after reamer exits last lug to be reamed or damage to the lug set could occur.

e. Ream bushings by turning cutter clockwise using wrench (detail 294) while pushing inboard, views R through U.

f. Remove details of tool kit from spar lugs.

g. Install outboard leading edge flap (A1-F18AC-570-300, WP032 00).

34. OUTBOARD LEADING EDGE FLAP TRANSMISSION LUGS.

a. Remove damaged bushings per Bushing Removal, this WP.

NOTE

If more than one lug set has damaged bushings, repair the lug sets in sequence, outboard to inboard, one lug set at a time.

b. Determine lug set number to be repaired, view V.

c. Assemble and install details of tool kit as applicable to match part configuration, views W through Z.



Coolant, Isopar M

32

d. Brush apply a light coat of cutting fluid to cutter.



Make sure cutter flutes do not contact adjacent lug set after reamer exits last lug to be reamed or damage to the lug set could occur.

e. Ream bushings by turning cutter clockwise using wrench (detail 294) while pushing inboard, views W through Z.

f. Remove details of tool kit from flap lugs.

g. Install outboard leading edge flap (A1-F18AC-570-300, WP032 00).

35. INNER WING FRONT SPAR TRANSMISSION LUGS.

a. Remove damaged bushings per Bushing Removal, this WP.

NOTE

If more than one lug set has damaged bushings, repair the lug sets in sequence, inboard to outboard, one lug set at a time.

b. Determine lug set number to be repaired, view AA.

c. Assemble and install details of tool kit as applicable to match part configuration, views AB through AF.



Coolant, Isopar M

32

d. Brush apply a light coat of cutting fluid to cutter.



Make sure cutter flutes do not contact adjacent lug set after reamer exits last lug to be reamed or damage to the lug set could occur.

e. Ream bushings by turning cutter using wrench (detail 294), views AB through AF.

f. Remove details of tool kit from spar lugs.

g. Install inboard leading edge flap (A1-F18AC-570-300, WP028 00).

36. INBOARD LEADING EDGE FLAP TRANSMISSION LUGS.

a. Remove damaged bushings per Bushing Removal, this WP.

NOTE

If more than one lug set has damaged bushings, repair the lug sets in sequence, inboard to outboard, one lug set at a time.

b. Determine lug set number to be repaired, view AG.

c. Assemble and install details of tool kit as applicable to match part configuration, views AH through AL.



Coolant, Isopar M

32

d. Brush apply a light coat of cutting fluid to cutter.



Make sure cutter flutes do not contact adjacent lug set after reamer exits last lug to be reamed or damage to the lug set could occur.

e. Ream bushings by turning cutter clockwise using wrench (detail 294) while pushing outboard, views AH through AL.

f. Remove details of tool kit from flap spar lugs.

g. Install inboard leading edge flap (A1-F18AC-570-300, WP028 00).

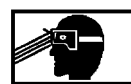
37. INNER WING FRONT SPAR IDLER LUGS.

a. Remove damaged bushings per Bushing Removal, this WP.

b. Determine lugs to be repaired, view AM.

c. Assemble and install details of tool kit as applicable to match part configuration, views AN through AS.

d. Tighten hand knob (detail 208) to secure subassembly to lug, views AN through AS.



Coolant, Isopar M

32

e. Brush apply a light coat of cutting fluid to cutter.



Make sure cutter flutes do not contact adjacent lug set after reamer exits last lug to be reamed or damage to the lug set could occur.

f. Ream bushings by turning cutter clockwise using wrench (detail 294) while pushing outboard, views AN through AS.

g. Remove details of tool kit from front spar idler lugs.

h. Install inboard leading edge flap (A1-F18AC-570-300, WP028 00).

38. OUTBOARD LEADING EDGE FLAP HINGE SUPPORT LUGS.

a. Remove damaged bushings per Bushing Removal, this WP.

b. Determine lug set number to be repaired, view AT.

NOTE

If opposite lug bushing is good, do not use (detail 205).

c. Assemble and install details of tool kit as applicable to match part configuration, view AT.



Coolant, Isopar M

32

d. Brush apply a light coat of cutting fluid to cutter.

e. Ream bushings by turning cutter clockwise using wrench (detail 294), view AT.

f. Remove details of tool kit from flap idler lugs.

g. Install outboard leading edge flap (A1-F18AC-570-300, WP032 00).

39. INBOARD LEADING EDGE FLAP IDLER LUGS.

a. Remove damaged bushings per Bushing Removal, this WP.

b. Determine lug set number to be repaired, view AU or AX.

c. Assemble and install details of tool kit as applicable to match part configuration, views AV and AW, or AY and AZ.



Coolant, Isopar M

32

d. Brush apply a light coat of cutting fluid to cutter.



Make sure cutter flutes do not contact adjacent lug set after reamer exits last lug to be reamed or damage to the lug set could occur.

e. Ream bushings by turning cutter clockwise using wrench (detail 294), views AV, AW, AY and AZ.

f. Remove details of tool kit from flap idler lugs.

g. Install inboard leading edge flap (A1-F18AC-570-300, WP028 00).

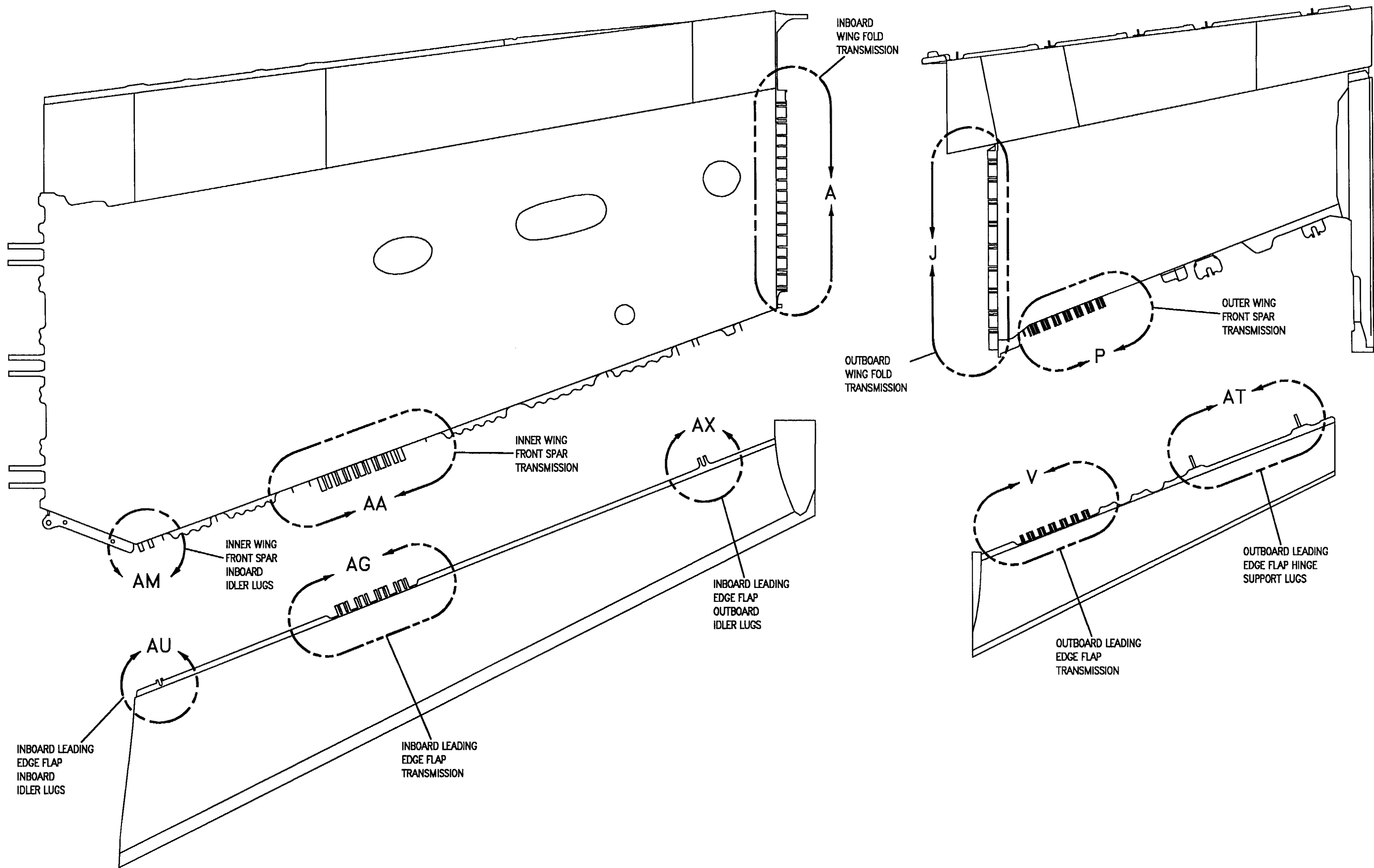
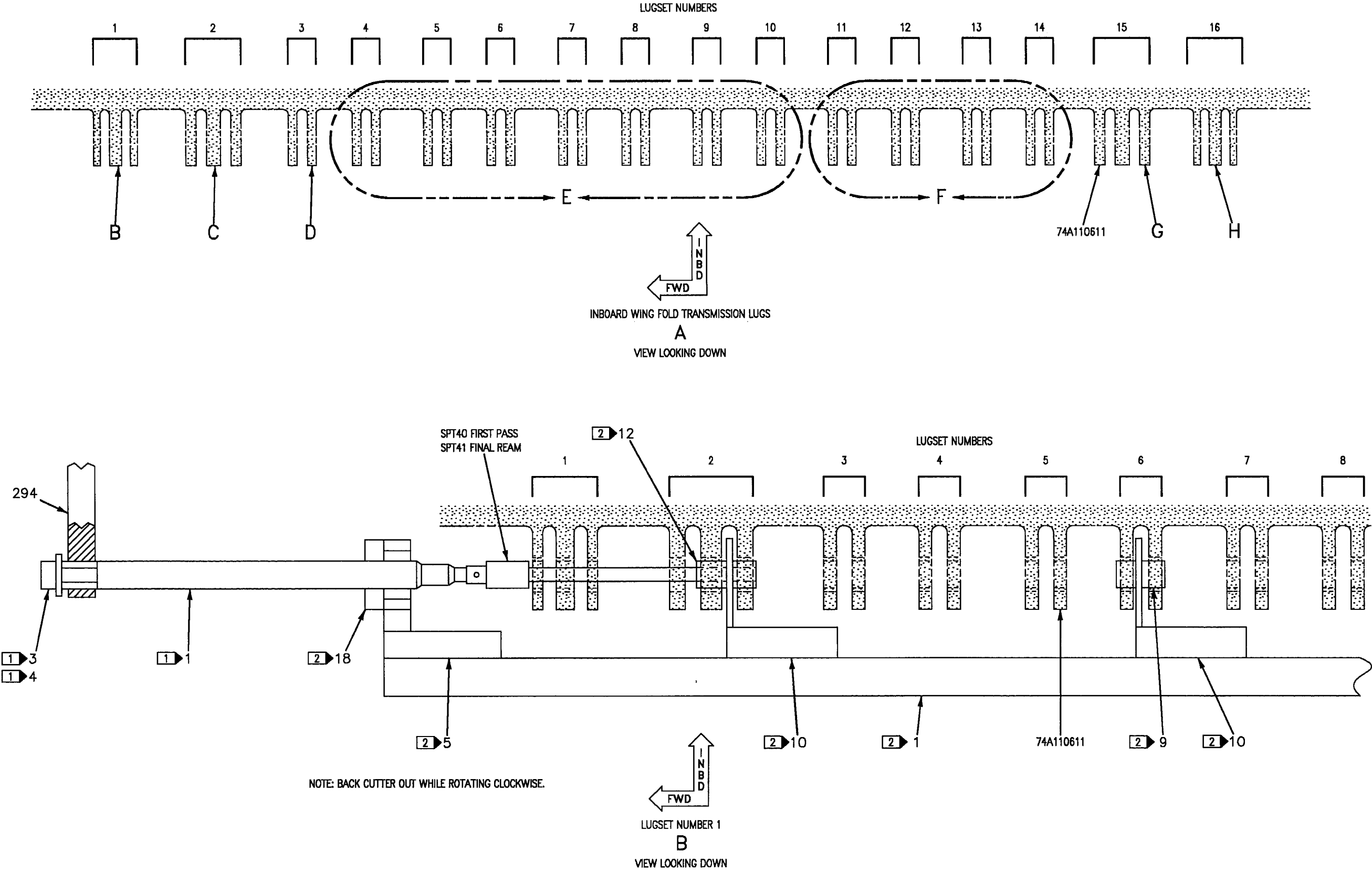


Figure 4. Reaming Bushings (Sheet 1)



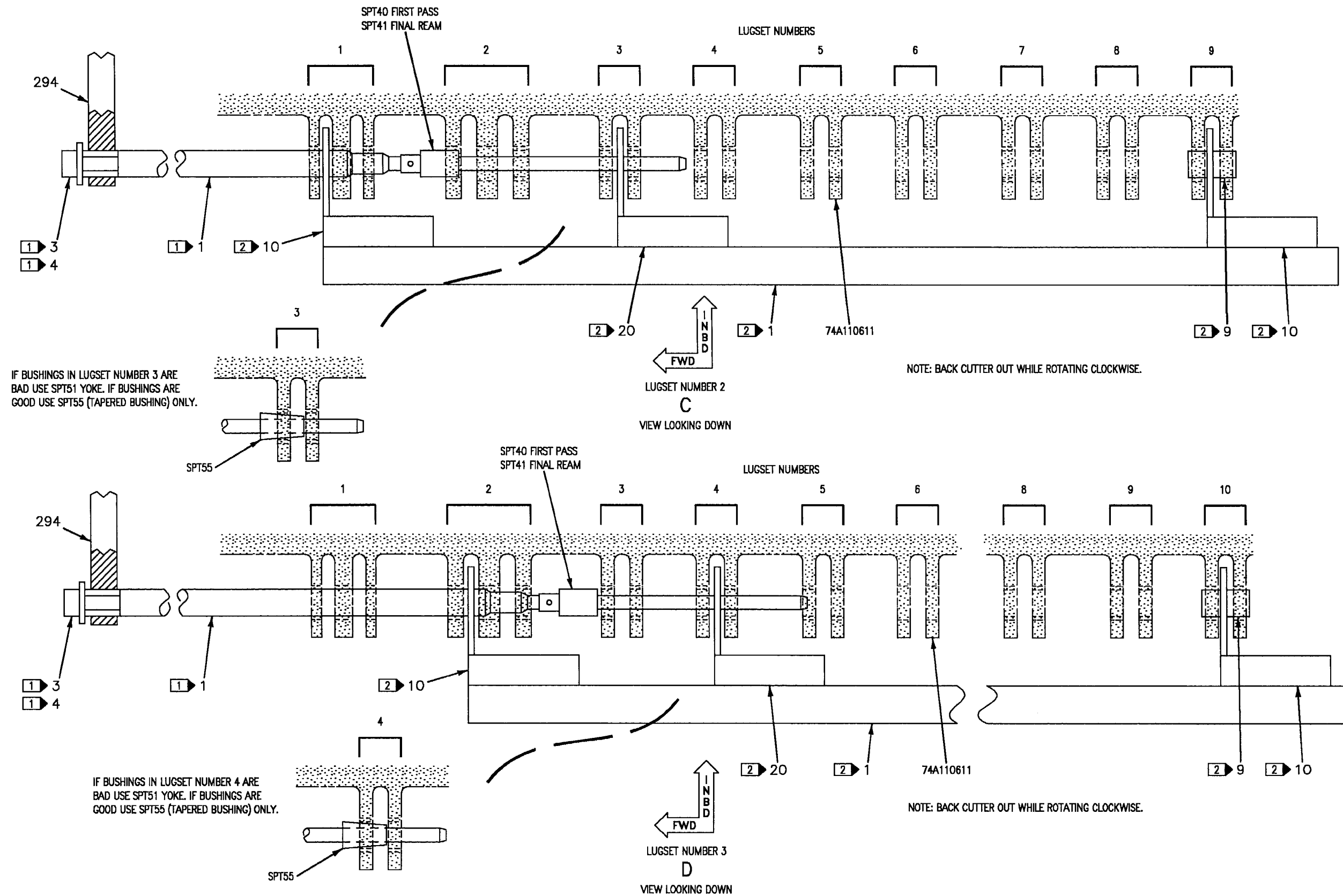


Figure 4. Reaming Bushings (Sheet 3)

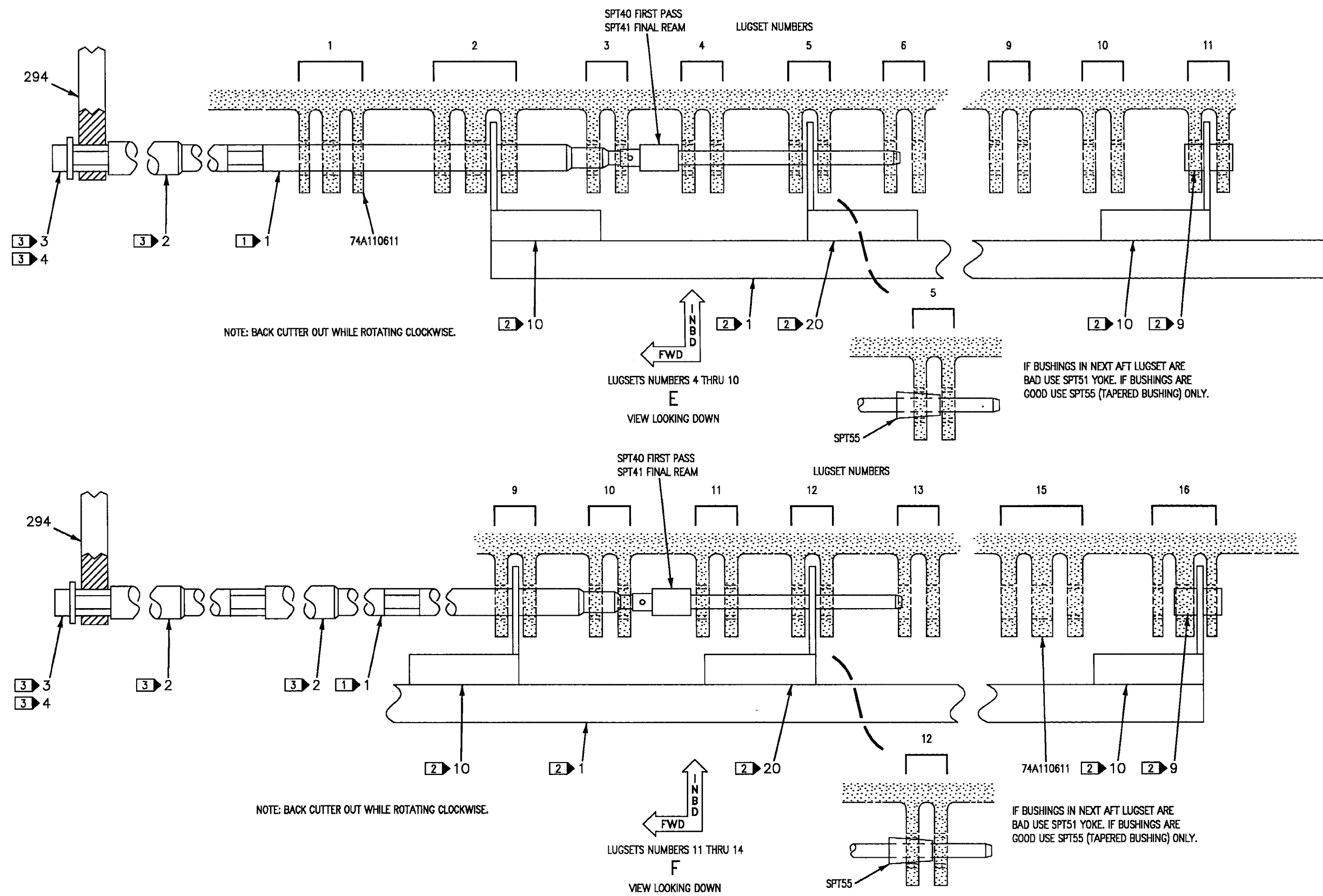


Figure 4. Reaming Bushings (Sheet 4)

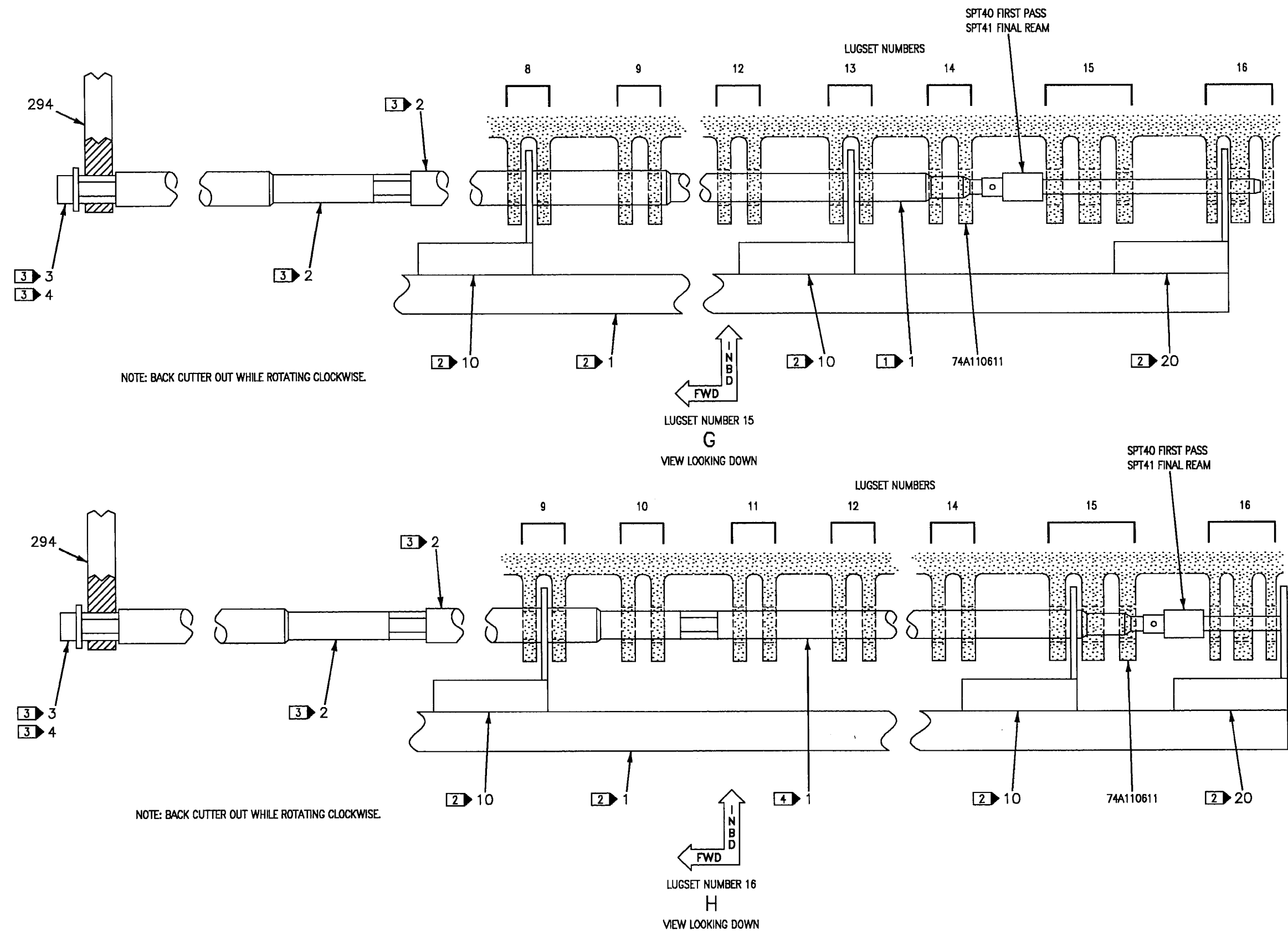


Figure 4. Reaming Bushings (Sheet 5)

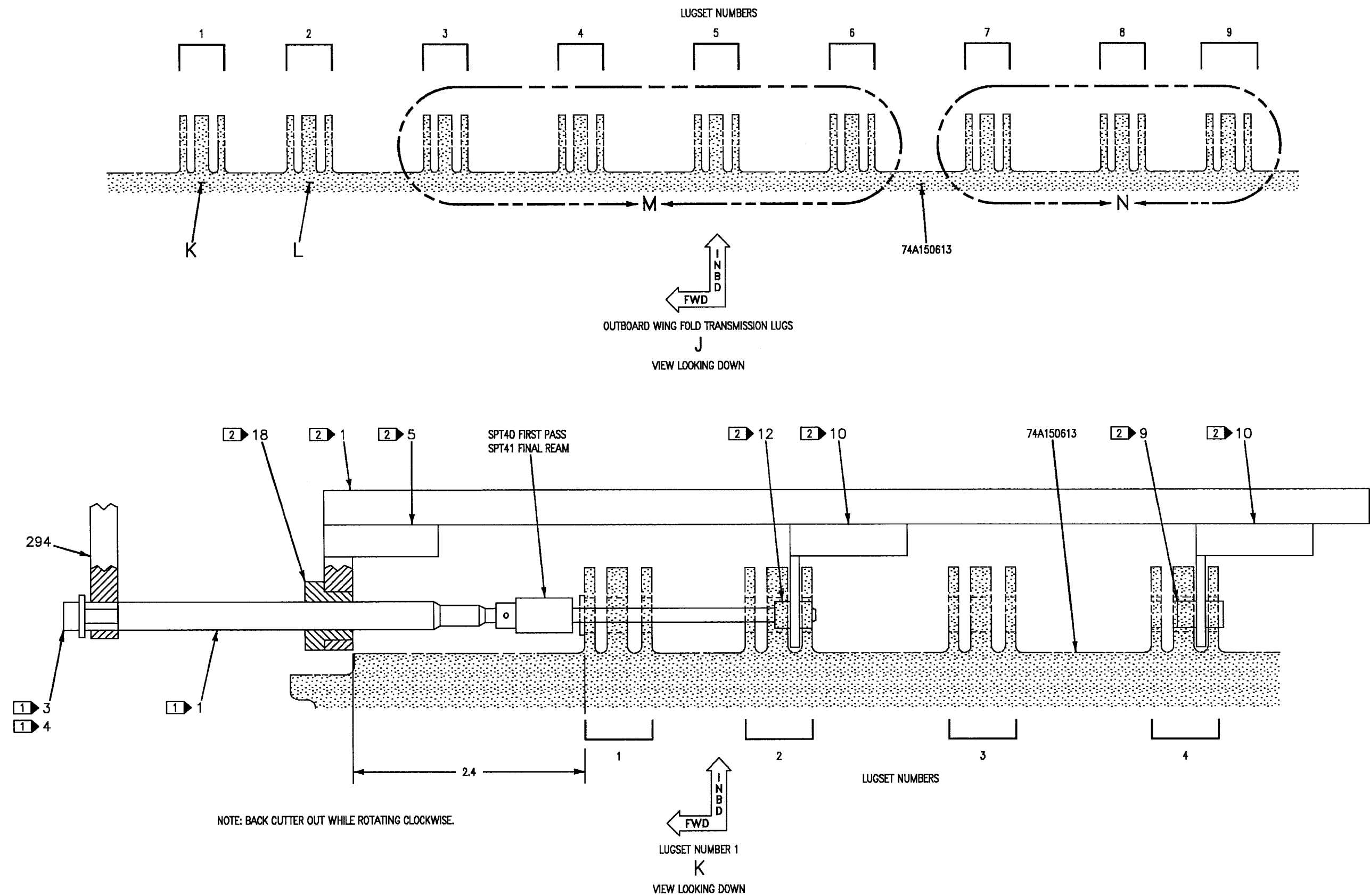


Figure 4. Reaming Bushings (Sheet 6)

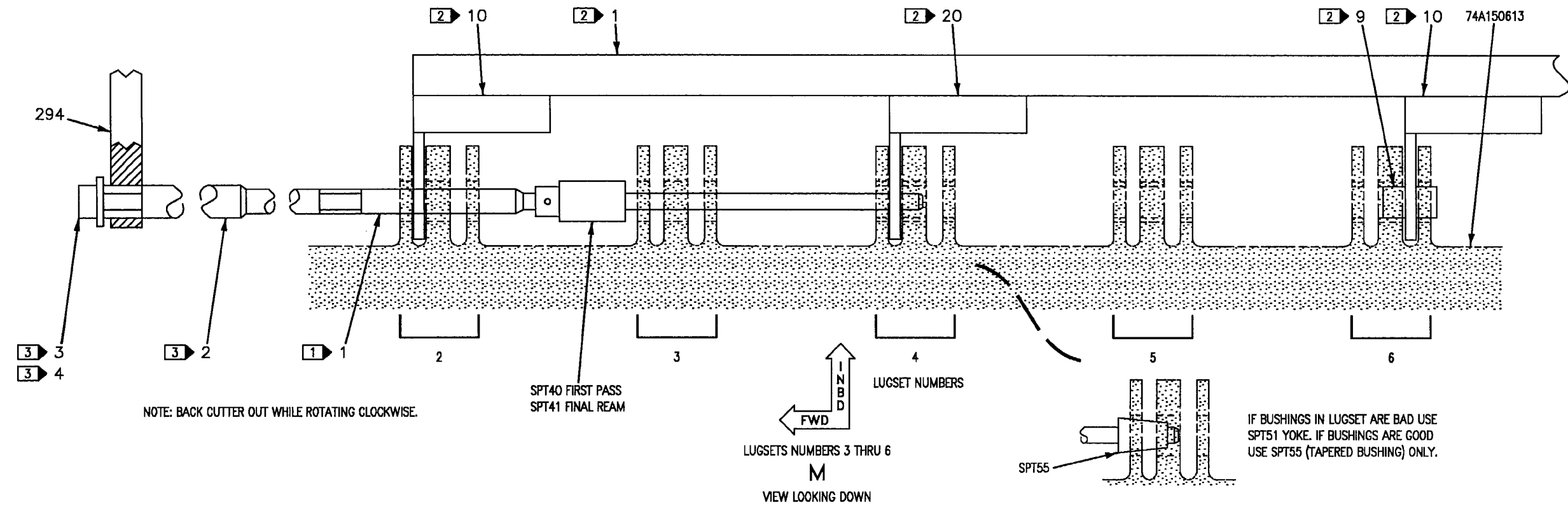
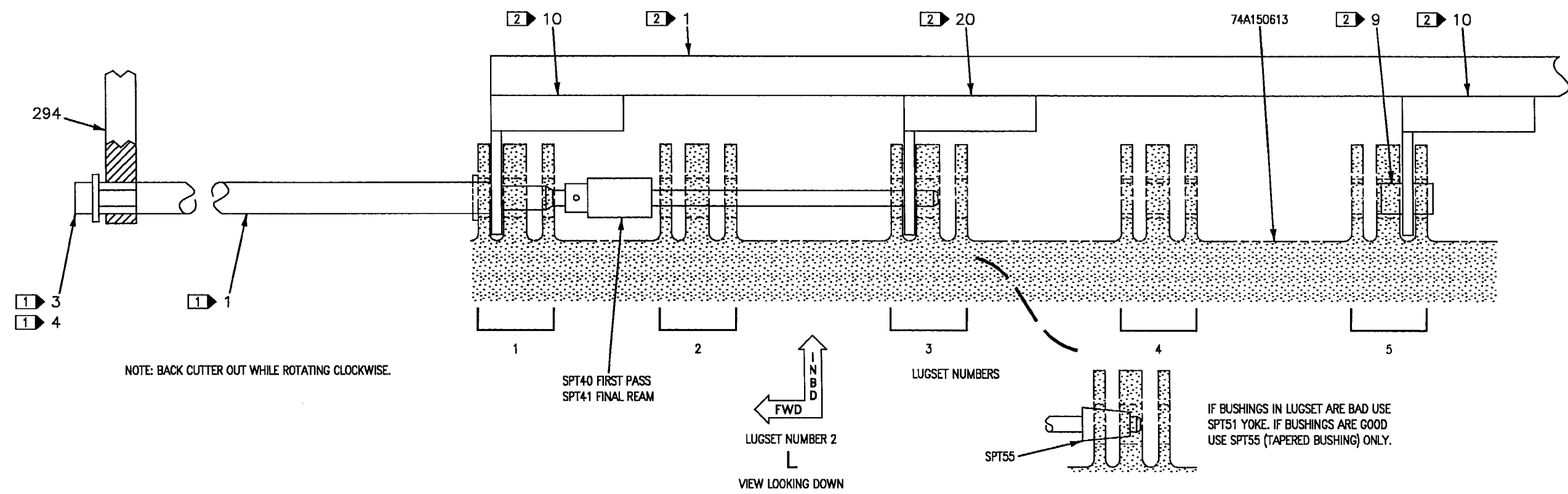


Figure 4. Reaming Bushings (Sheet 7)

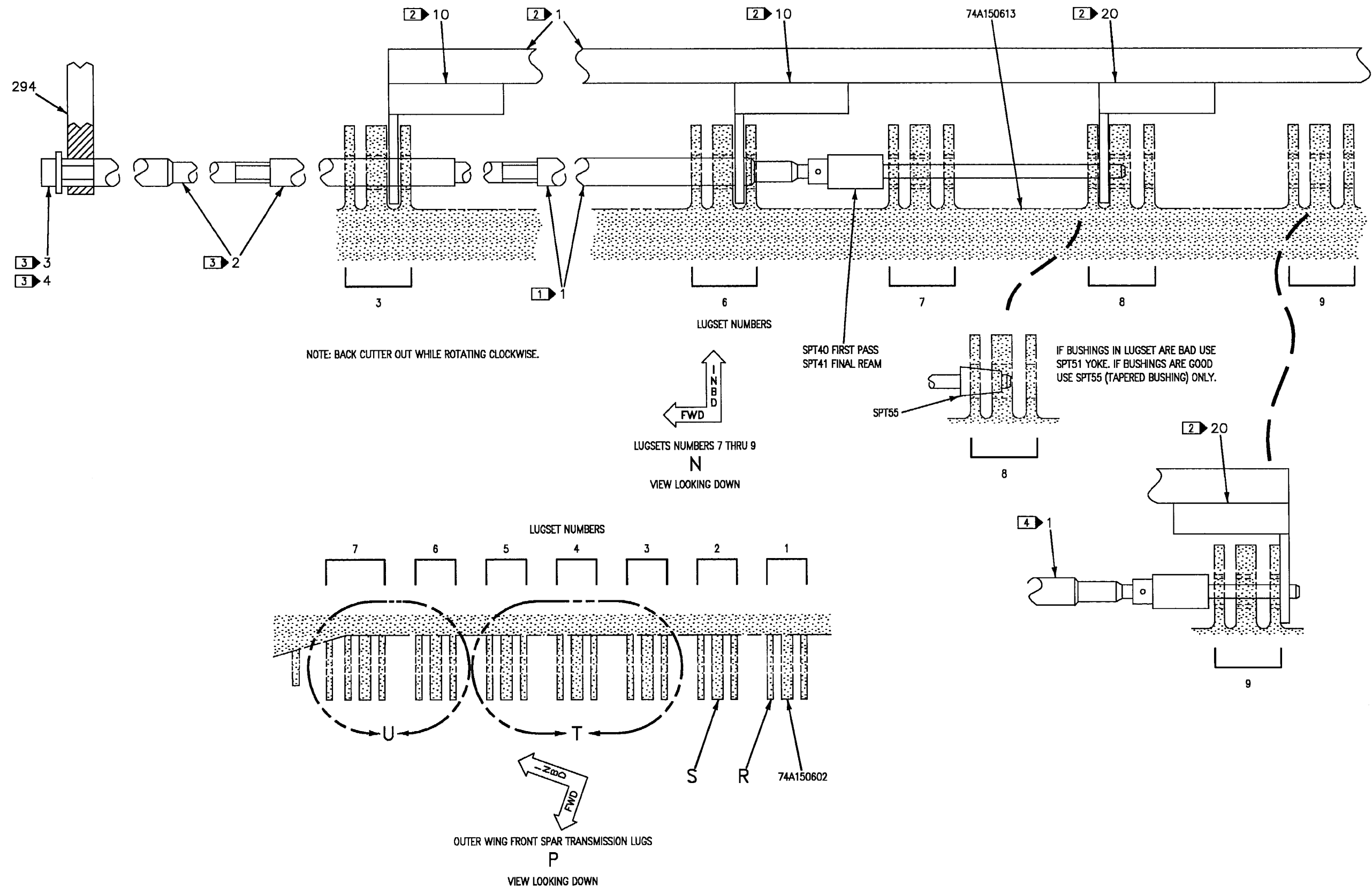


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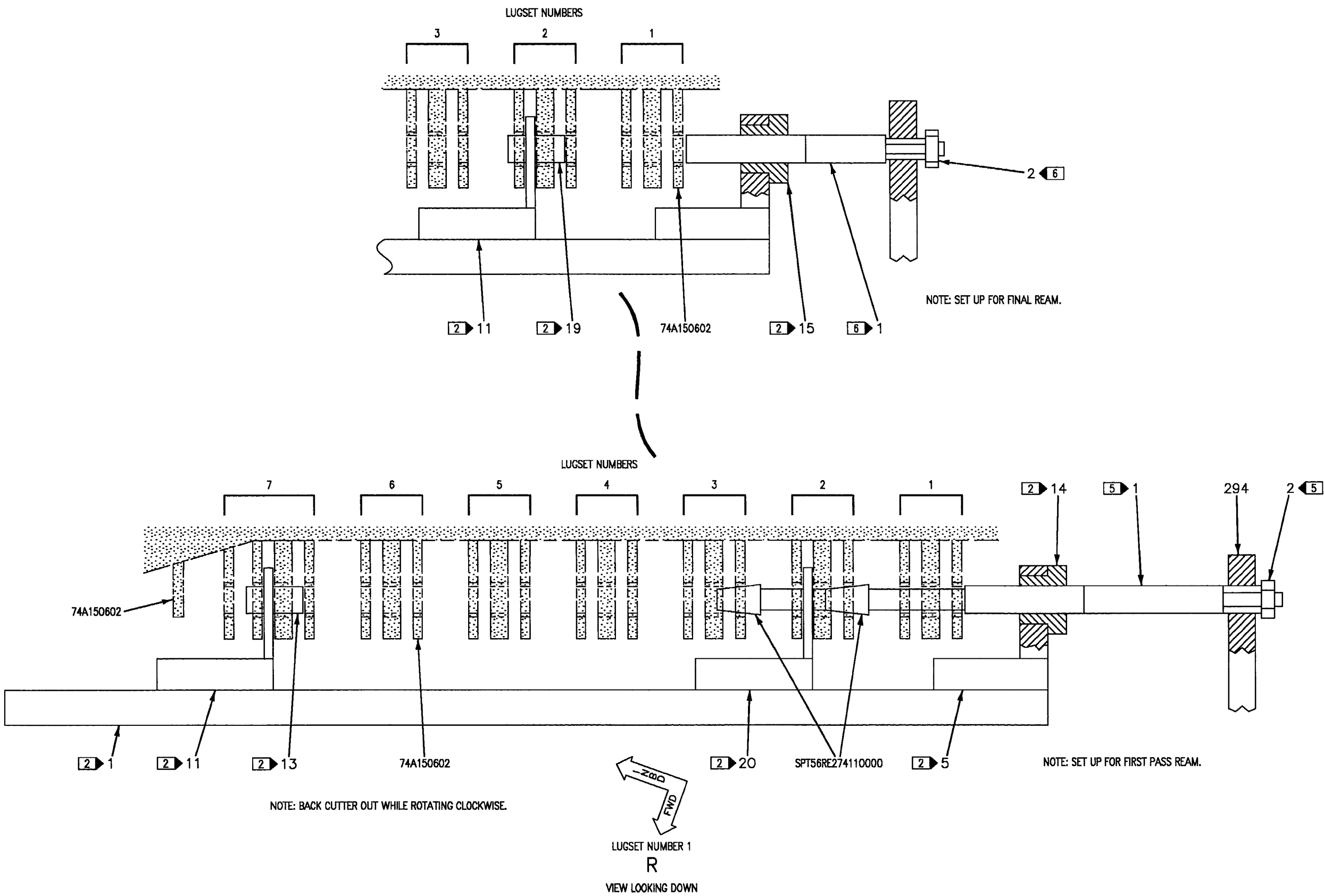


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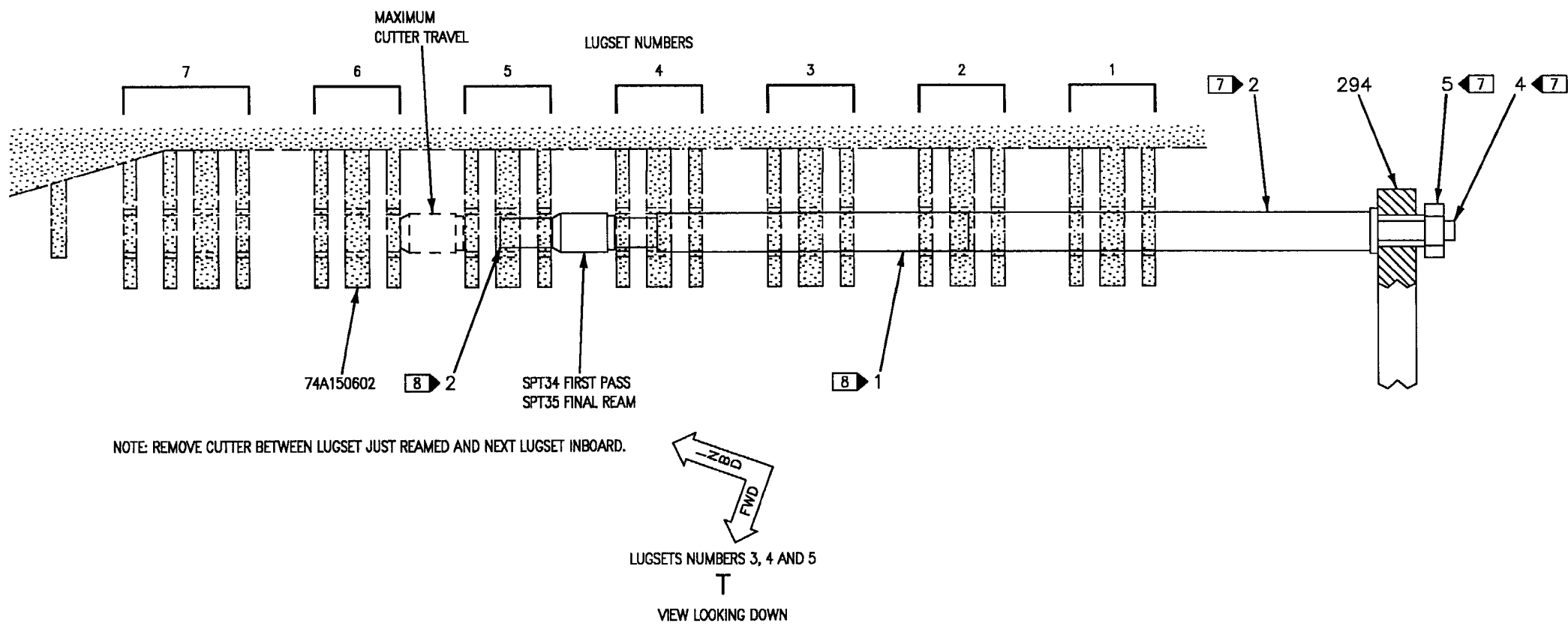
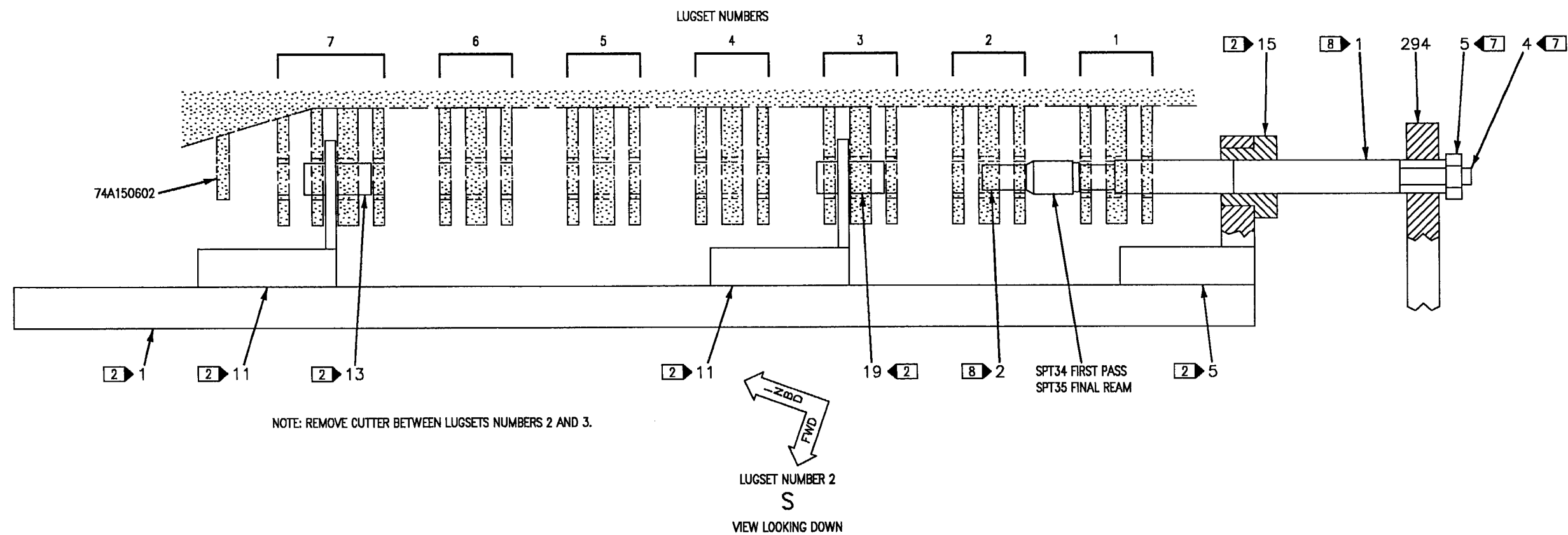


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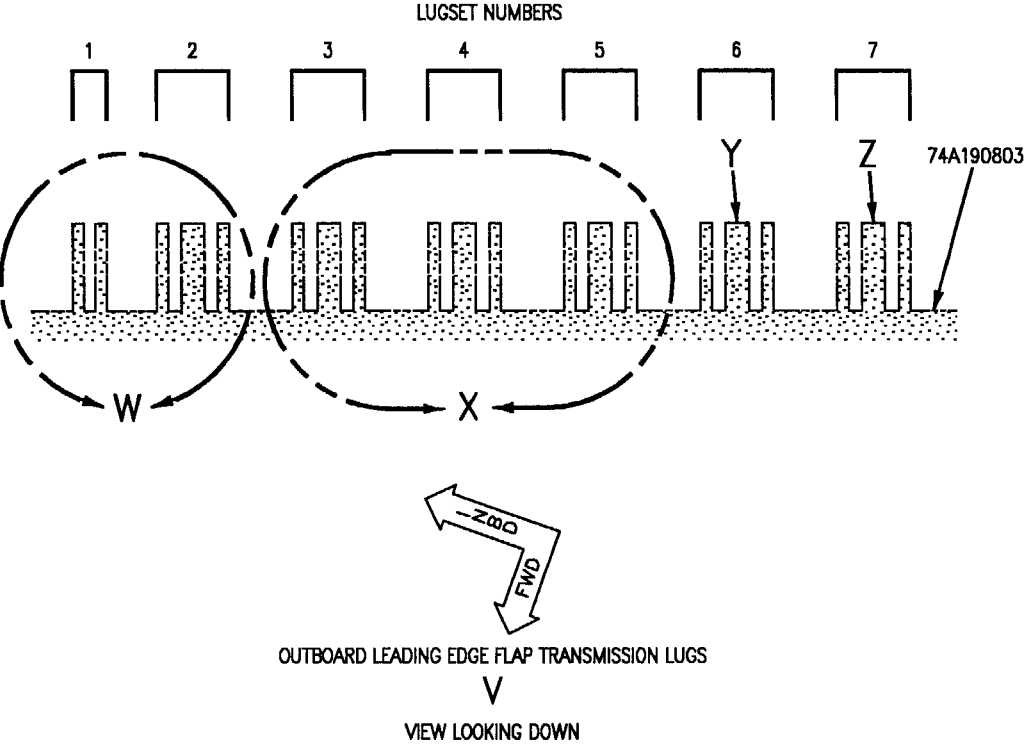
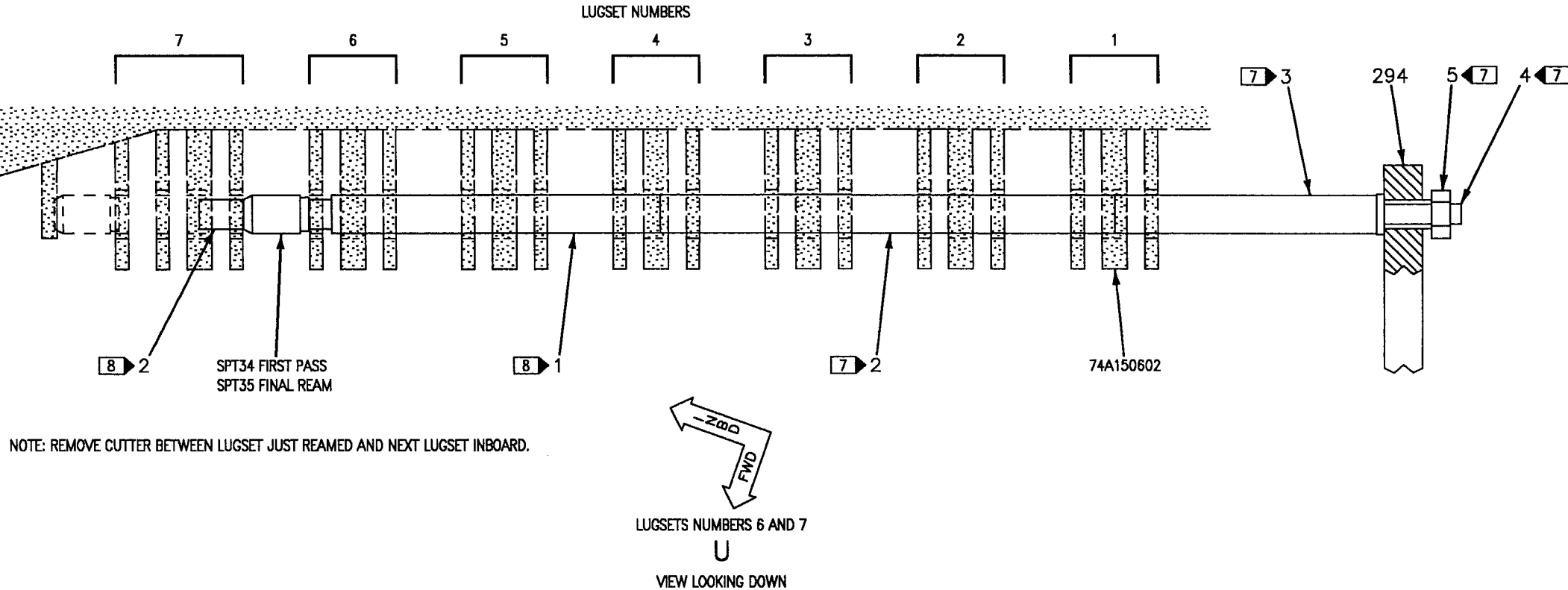


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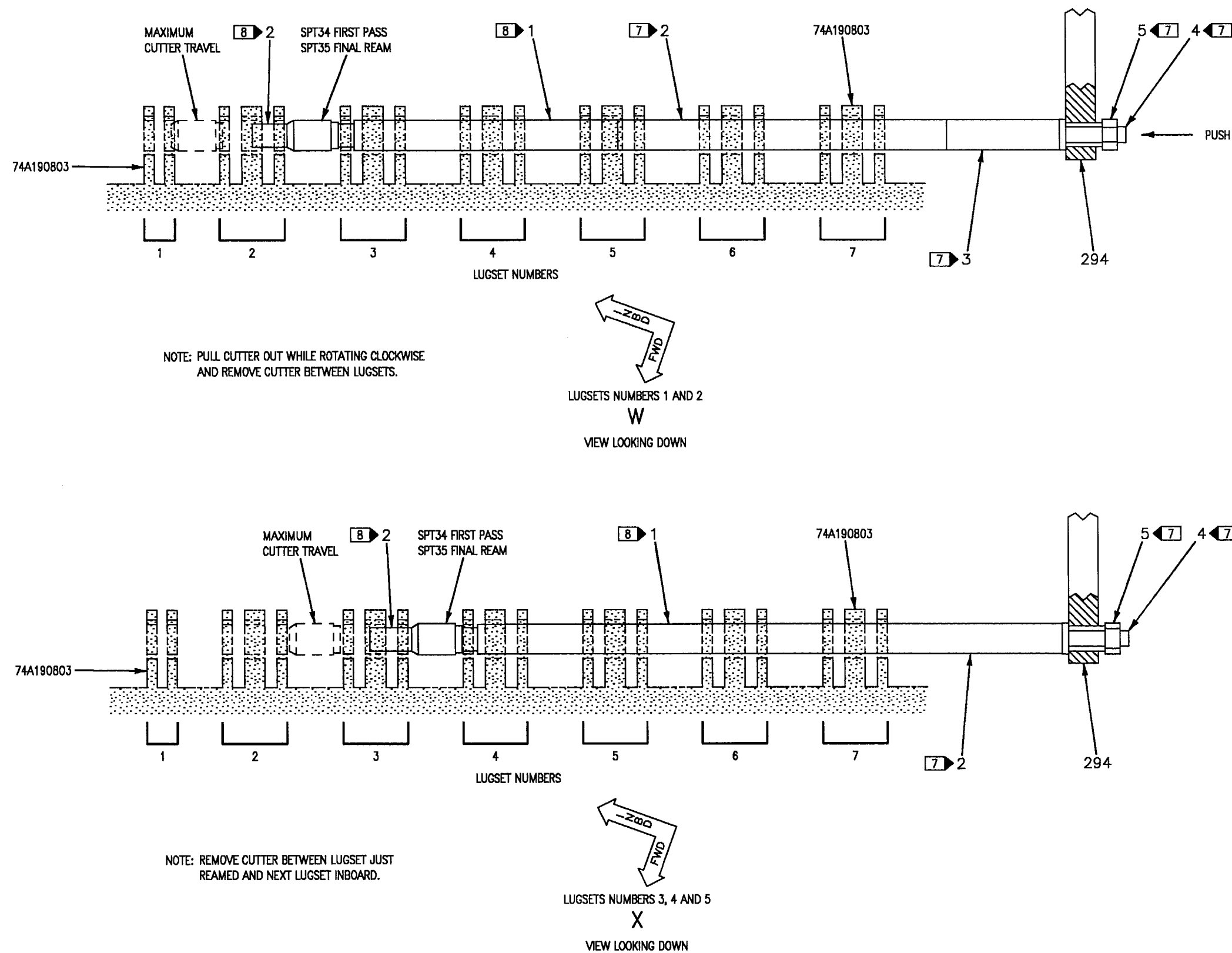


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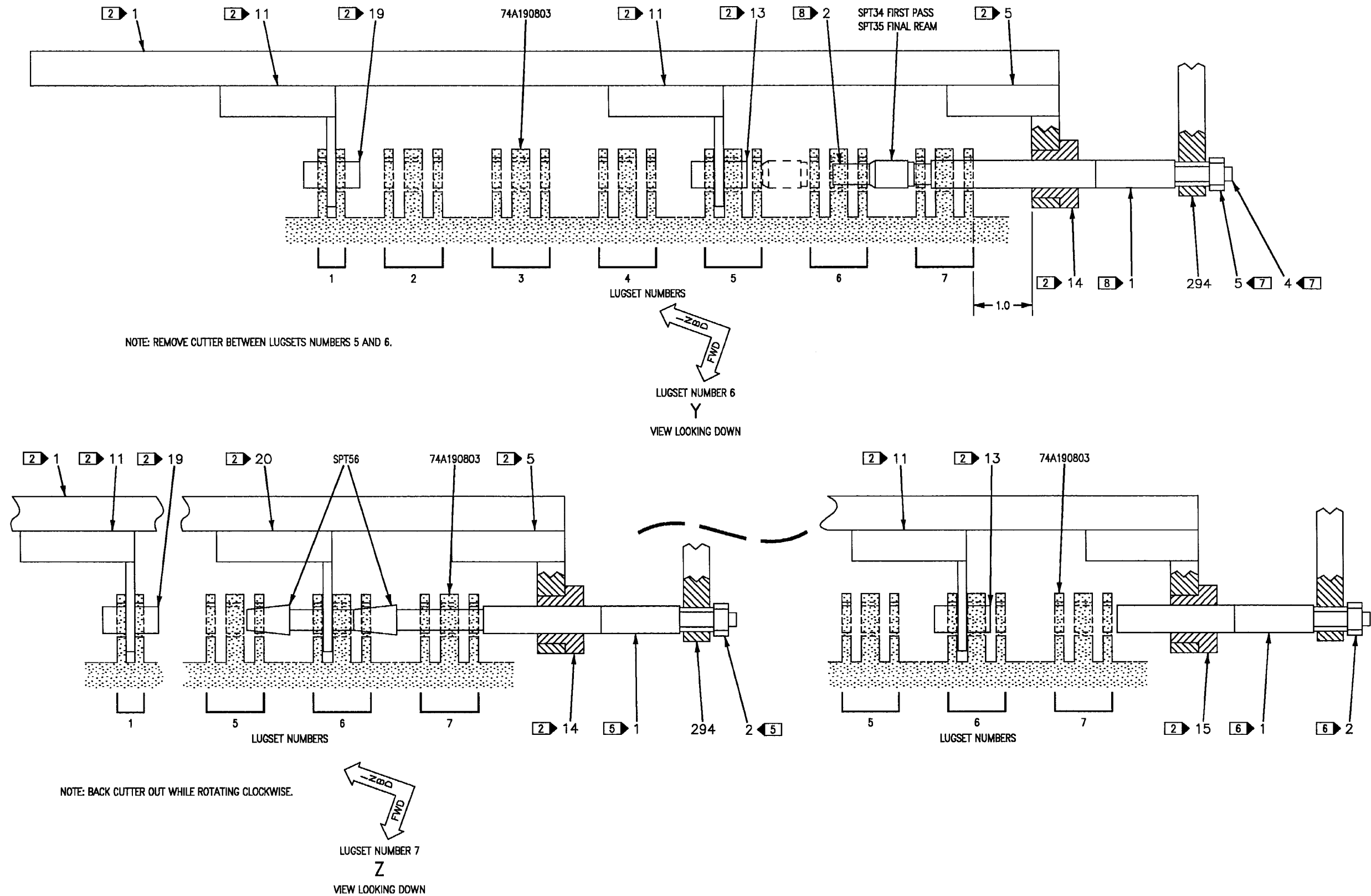


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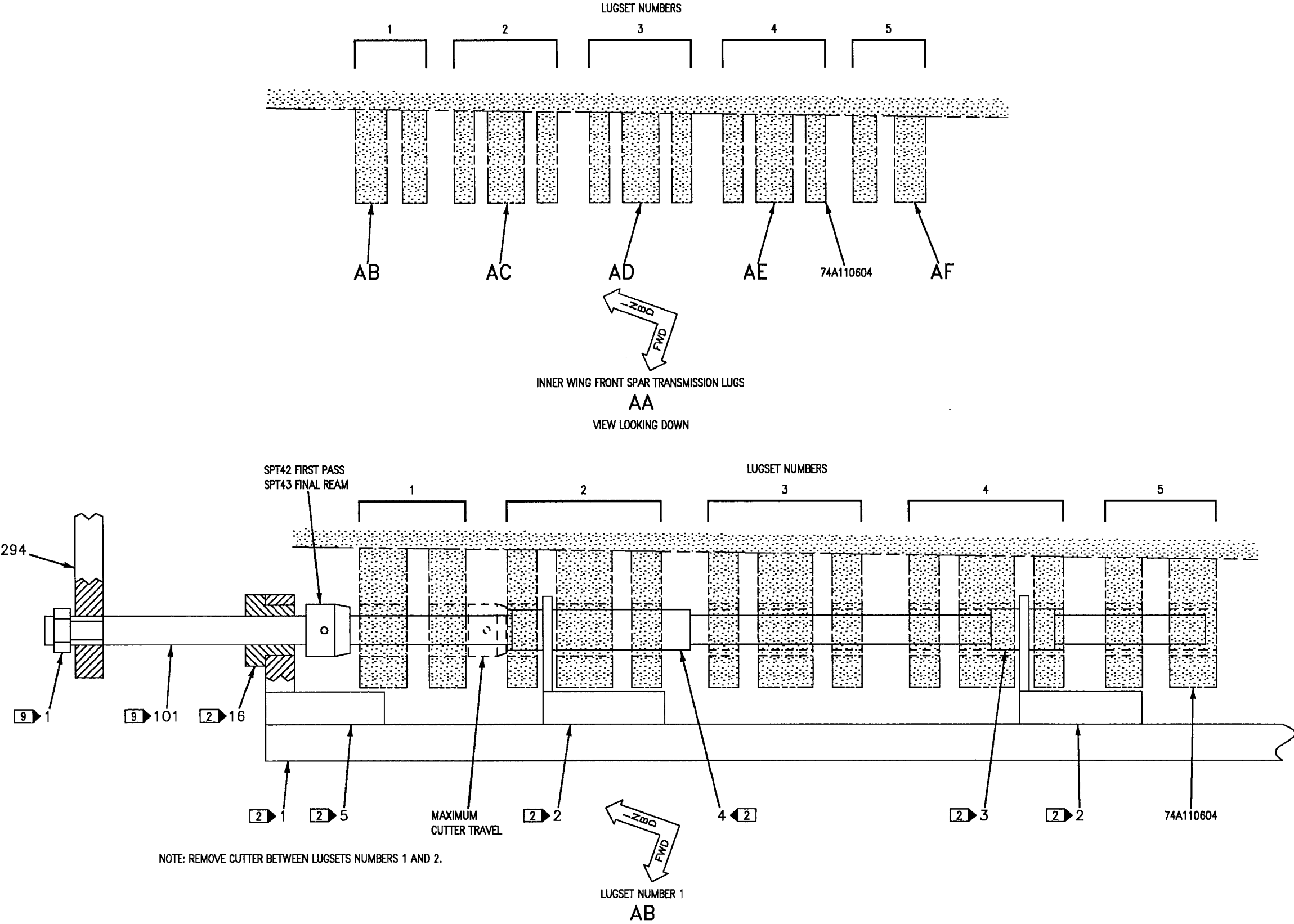


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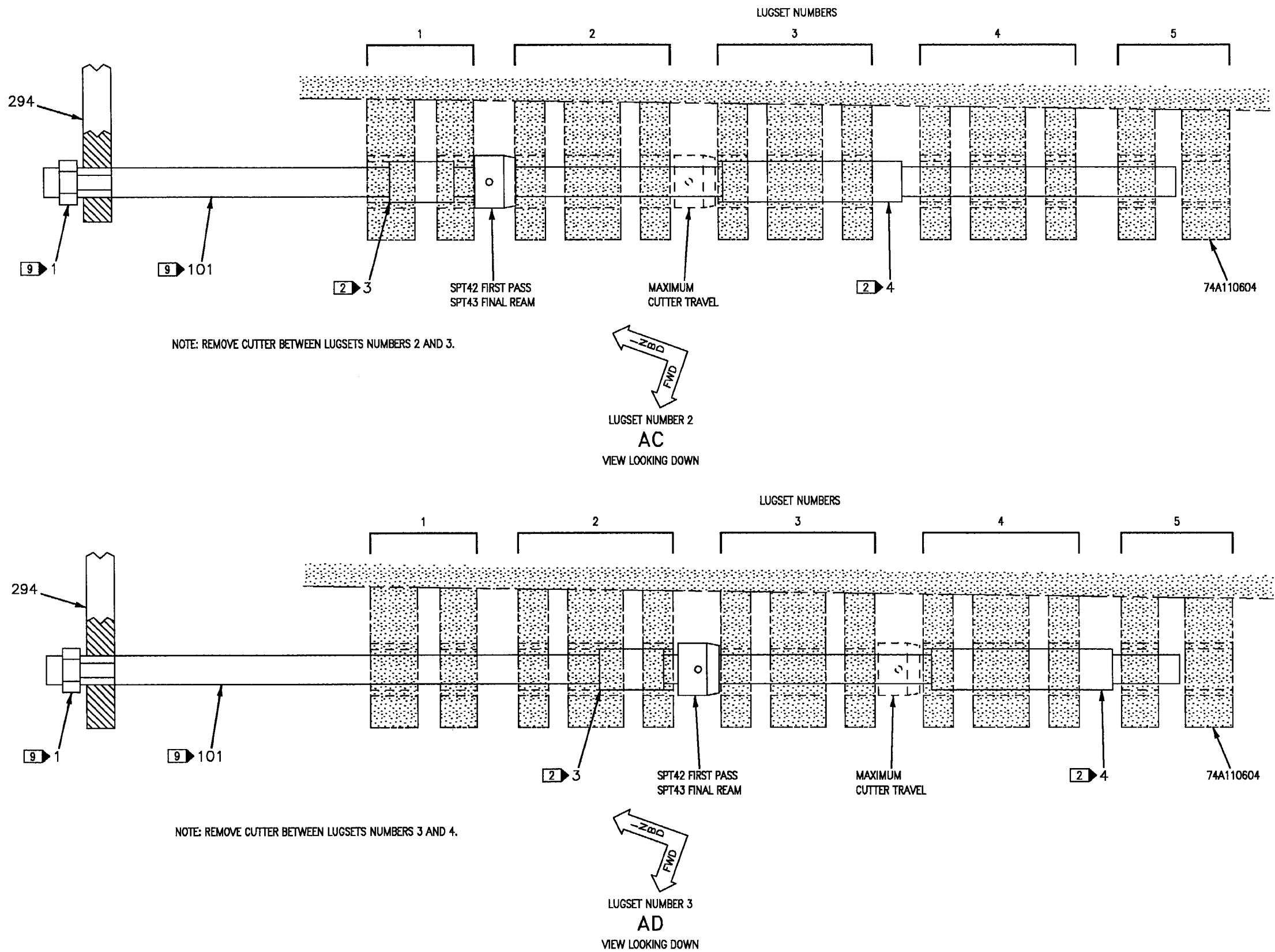


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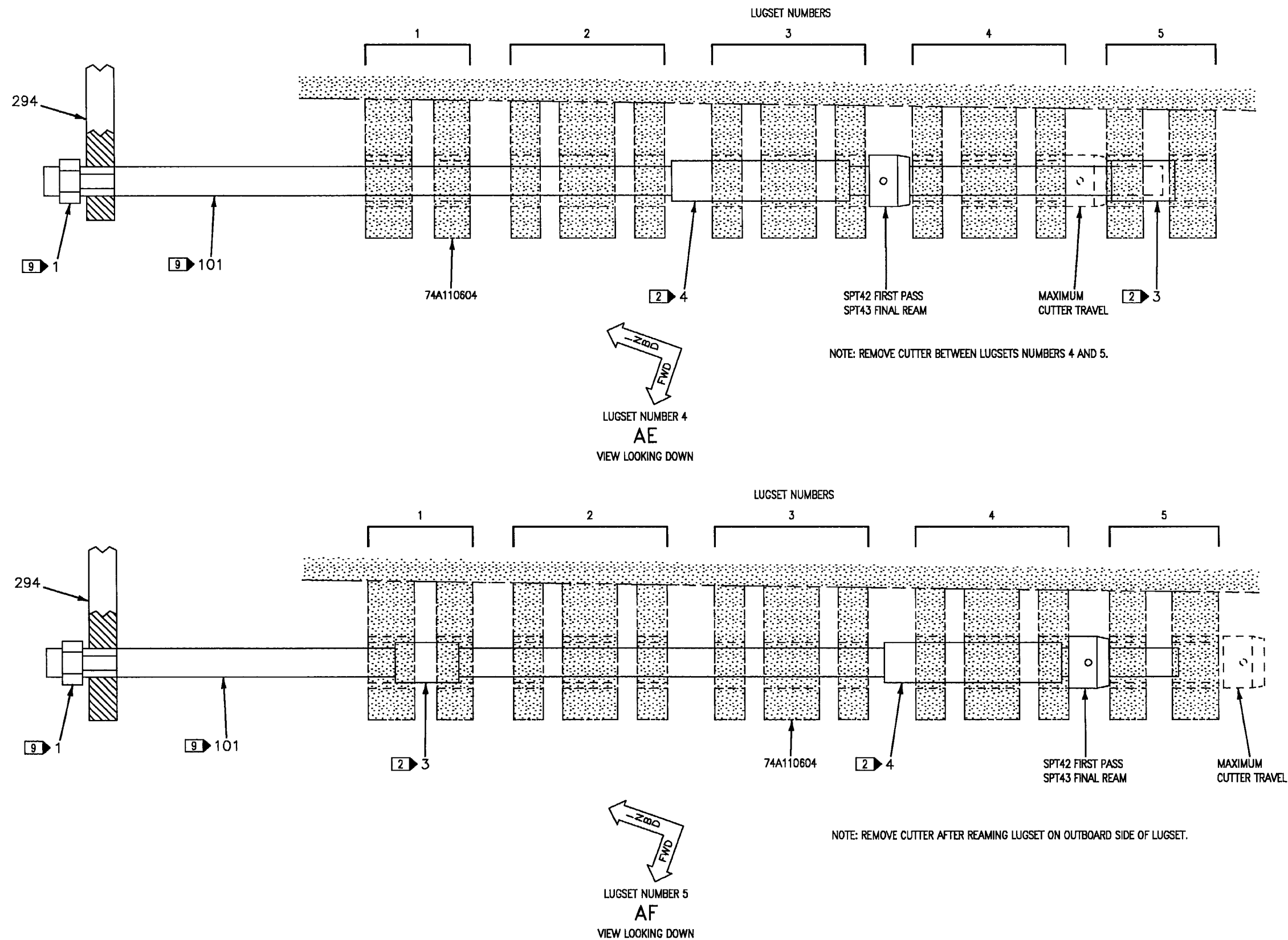


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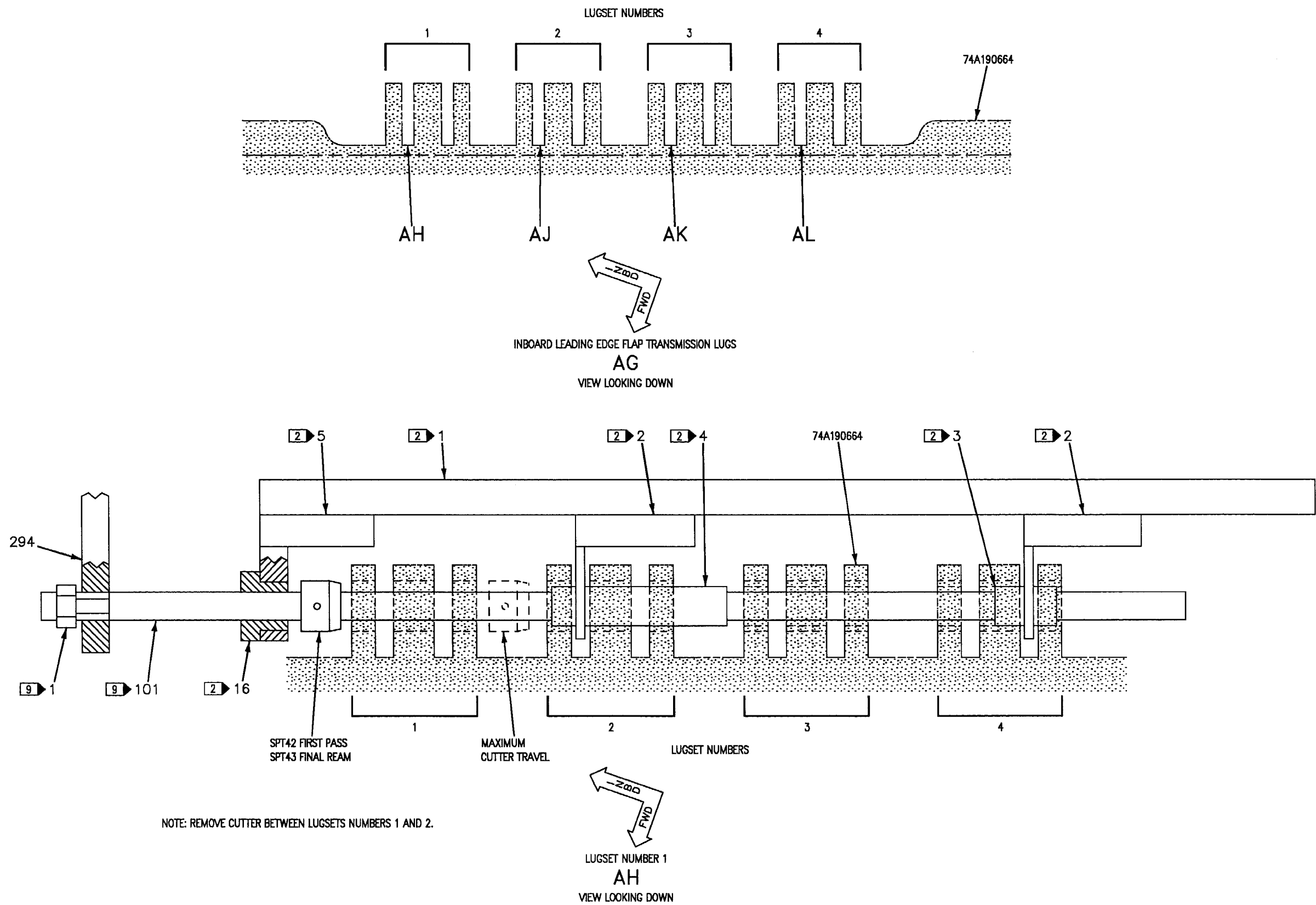


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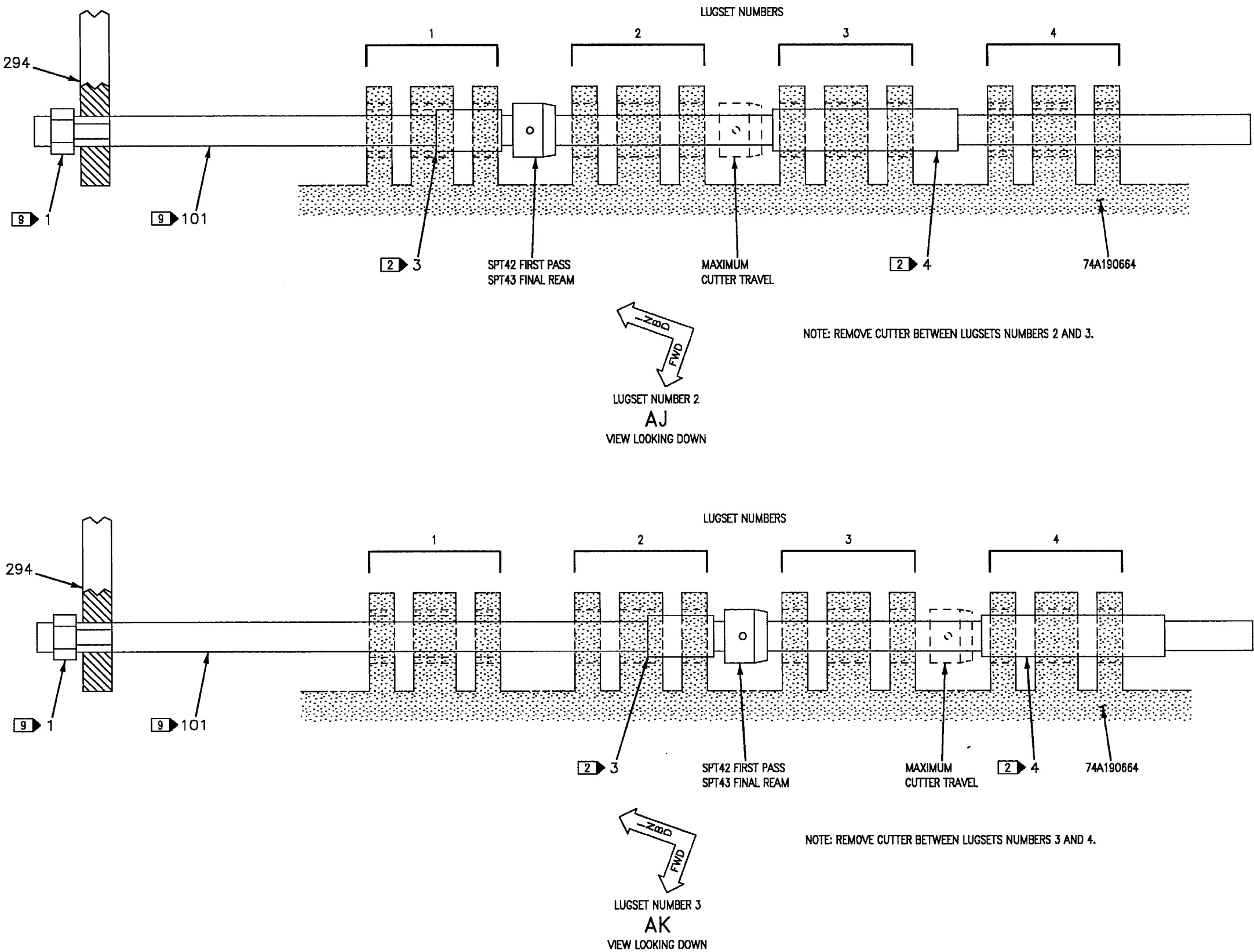


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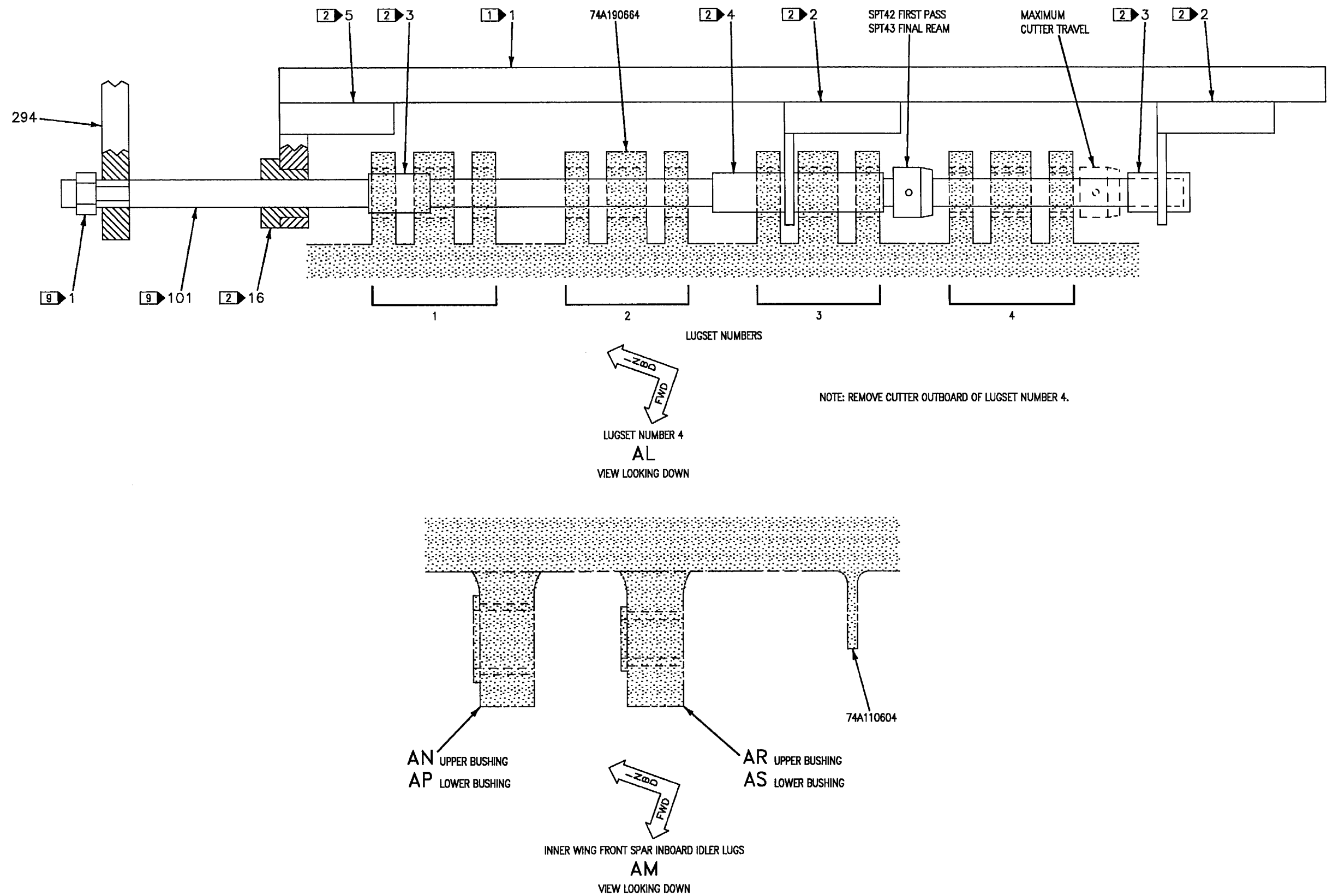


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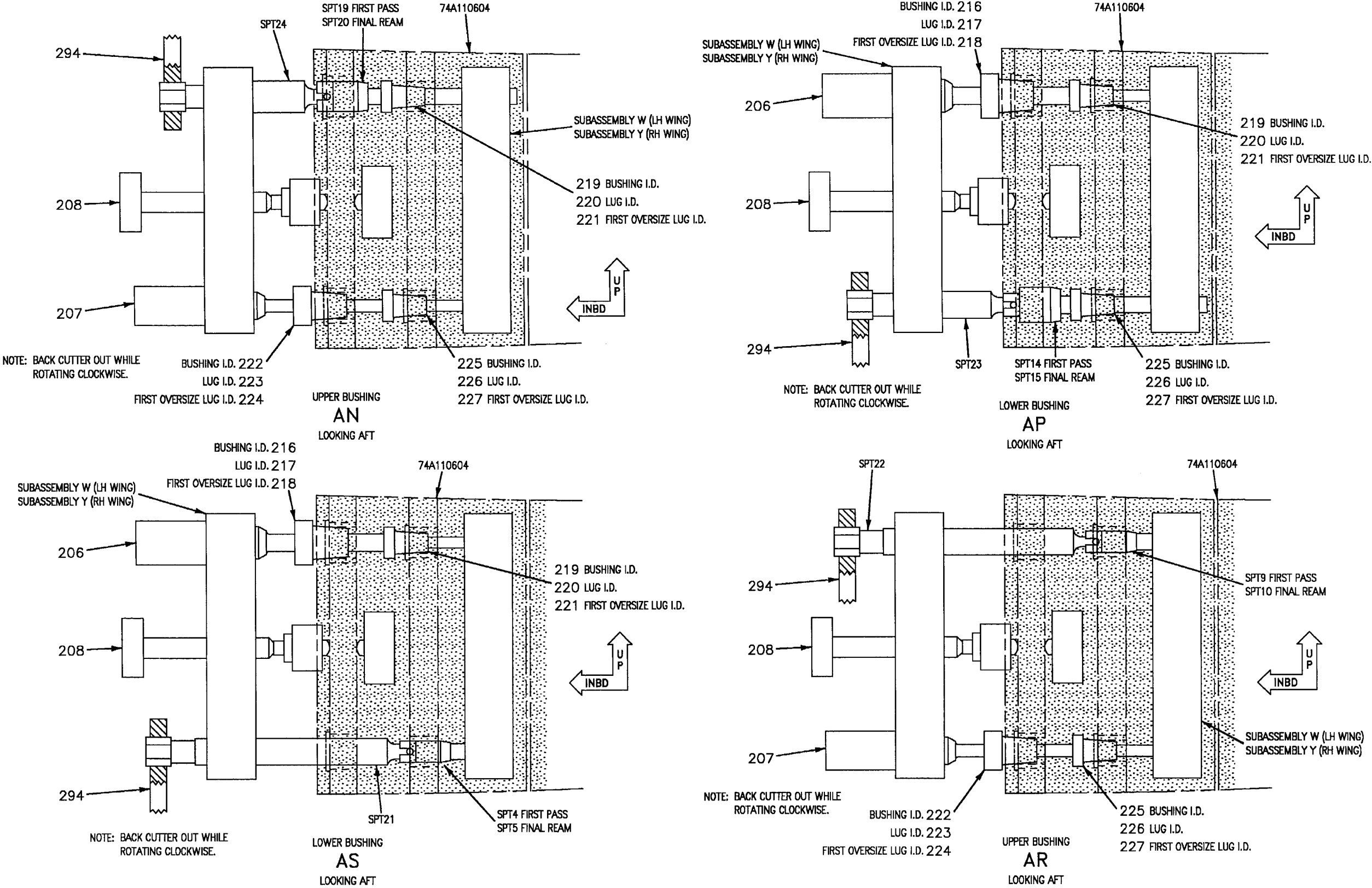


Figure 4. Reaming Bushings (Sheet 20)

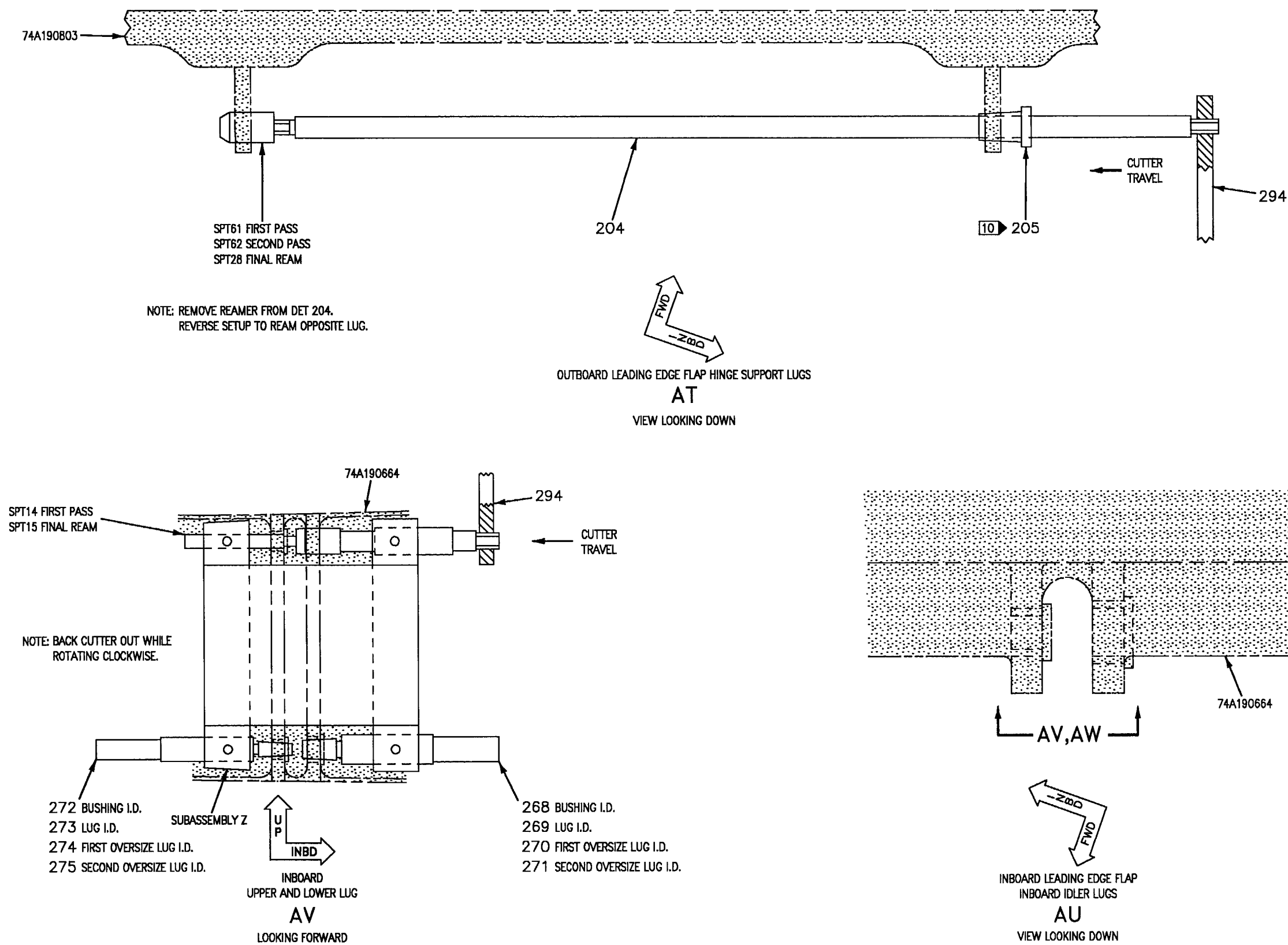


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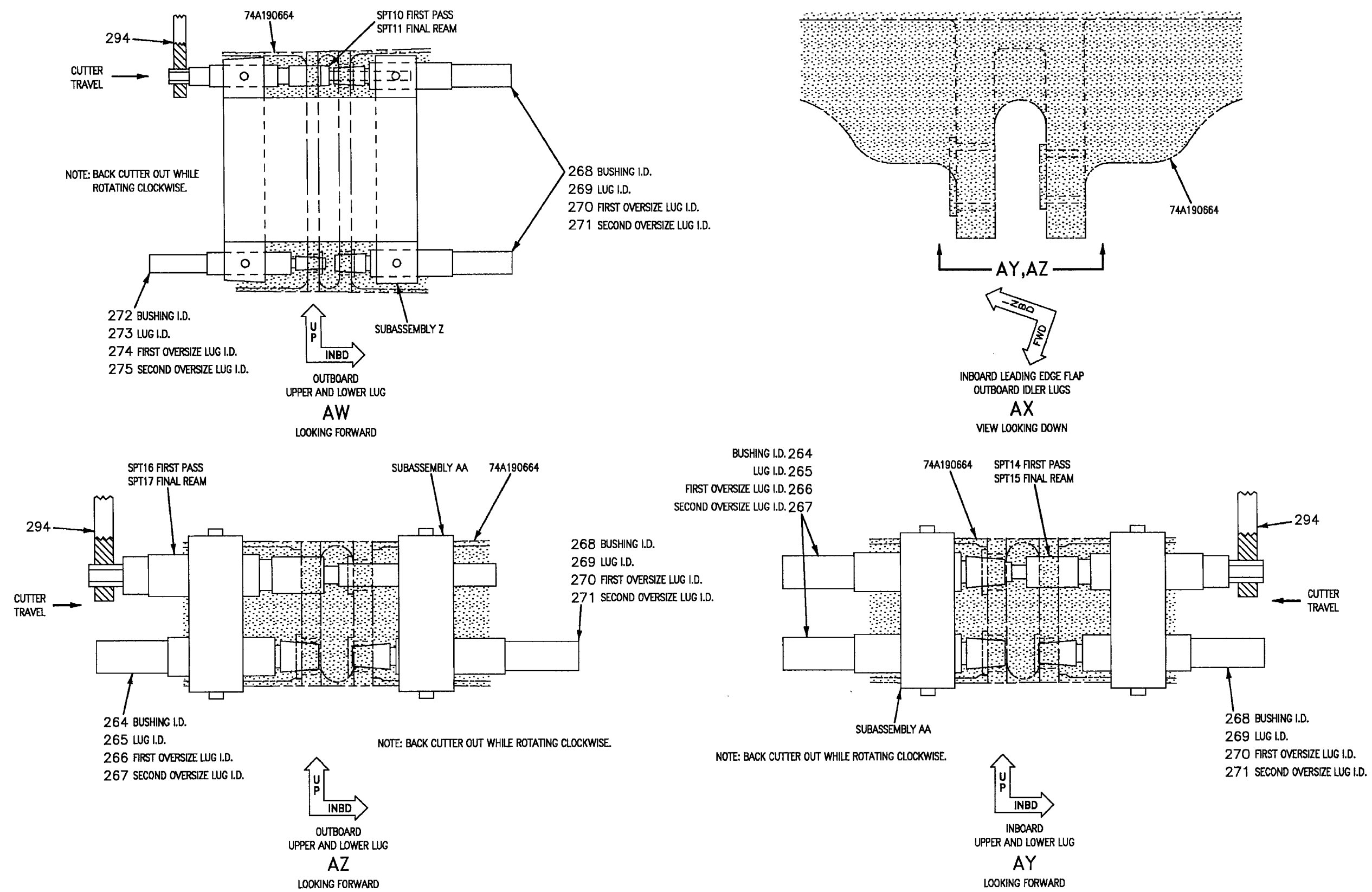


Figure 4. Reaming Bushings (Sheet 22)

Detail No.	Name	Function	Box Location
SPT4	Reamer	Reams bushing inside diameter, first pass.	2
SPT5	Reamer	Reams bushing inside diameter, final ream.	2
SPT9	Reamer	Reams bushing inside diameter, first pass.	2
SPT10	Reamer	Reams bushing inside diameter, final ream.	2
SPT11	Reamer	Reams bushing inside diameter, final ream.	2
SPT14	Reamer	Reams bushing inside diameter, first pass.	2
SPT15	Reamer	Reams bushing inside diameter, final ream.	2
SPT16	Reamer	Reams bushing inside diameter, first pass.	2
SPT17	Reamer	Reams bushing inside diameter, final ream.	2
SPT19	Reamer	Reams bushing inside diameter, first pass.	2
SPT20	Reamer	Reams bushing inside diameter, final ream.	2
SPT21	Extension Bar	Allows reamer to extend to hinge tangs.	2
SPT22	Extension Bar	Allows reamer to extend to hinge tangs.	2
SPT23	Extension Bar	Allows reamer to extend to hinge tangs.	2
SPT24	Extension Bar	Allows reamer to extend to hinge tangs.	2
SPT28	Reamer	Reams bushing inside diameter, final ream.	2
SPT35	Reamer	Reams bushing inside diameter, first pass.	2
SPT36	Reamer	Reams bushing inside diameter, final ream.	2
SPT40	Reamer	Reams bushing inside diameter, first pass.	2
SPT41	Reamer	Reams bushing inside diameter, final ream.	2
SPT42	Reamer	Reams bushing inside diameter, first pass.	2
SPT43	Reamer	Reams bushing inside diameter, final ream.	2
SPT55	Tapered Bushing	Used in lug with bad or removed bushing.	2
SPT56	Tapered Bushing	Used in lug with bad or removed bushing.	2 or 9

Figure 4. Reaming Bushings (Sheet 23)

















Detail No.	Name	Function	Box Location
SPT61	Reamer	Reams bushing inside diameter, first pass.	1
SPT62	Reamer	Reams bushing inside diameter, second pass.	1
Subassembly W	Bushing Reaming Tool	Reams bushing holes at left side inner wing inboard idler lugs.	3
Subassembly Y	Bushing Reaming Tool	Reams bushing holes at right side inner wing inboard idler lugs.	3
Subassembly Z	Bushing Reaming Tool	Reams bushing holes at leading edge flap inboard idler lugs.	3
Subassembly AA	Bushing Reaming Tool	Reams bushing holes at leading edge flap outboard idler lugs.	3
1 	Extension Bar	Allows reamer to extend to hinge tangs.	2
1 	Alignment Bar	Holds details of SPT assembly in place.	2 or 9
1 	Extension Bar	Allows reamer to extend to hinge tangs.	2
1 	Reamer	Reams inside diameter of bushing for first pass.	2
1 	Reamer	Reams inside diameter of bushing for final ream.	2
1 	Extension Bar	Allows reamer to extend to hinge tangs.	2
1 	Retaining Nut	Secures detail 294 in place.	2
2 	Alignment Fitting	Provides alignment for reaming tool.	2 or 9
2 	Extension Bar	Allows reamer to extend to hinge tangs.	2
2 	Retaining Nut	Secures wrench in place.	2
2 	Retaining Nut	Secures wrench in place.	2
2 	Extension Bar	Allows reamer to extend to inboard hinge tangs.	2
2 	Adapter	Installs on end of extension bar.	2
3 	Retainer Nut	Secures ratchet wrench (detail 294) in place.	2
3 	Pivot Bushing	Holds alignment fixture in position.	2 or 9
3 	Retainer Nut	Secures detail 294 in place.	2

Figure 4. Reaming Bushings (Sheet 24)






















Detail No.	Name	Function	Box Location
3 	Extension Bar	Allows reamer to extend to inboard hinge tangs.	2
4 	Adapter	Adapts detail 294 to extension inboard hinge tangs.	2
4 	Adapter	Adapts detail 294 to extension inboard hinge tangs.	2
4 	Adapter	Adapts detail 294 to extension inboard hinge tangs.	2
4 	Alignment Bushing	Provides alignment for reaming tool.	2 or 9
5 	Alignment Fitting	Aligns the alignment bar for reaming lugsets.	2 or 9
5 	Retaining Nut	Secures detail 294 in place.	2
9 	Pivot Bushing	Holds alignment fixture in position.	2 or 9
10 	Alignment Fitting	Holds alignment fixture to pivot bushing (detail 9).	2 or 9
11 	Alignment Fitting	Holds alignment fixture to pivot bushing (detail 13).	2 or 9
12 	Pivot Bushing	Holds alignment fixture in position.	2 or 9
13 	Pivot Bushing	Holds alignment fixture in position.	2 or 9
14 	Pilot Bushing	Holds alignment fixture in position.	2 or 9
15 	Pilot Bushing	Holds alignment fixture in position.	2 or 9
16 	Pilot Bushing	Holds alignment fixture in position.	2 or 9
18 	Pilot Bushing	Holds alignment fixture in position.	2 or 9
19 	Pivot Bushing	Holds alignment fixture in position.	2 or 9
10 	Alignment Fitting	Aligns alignment bar for reaming lugsets.	2 or 9
20 	Alignment Fitting	Aligns alignment bar for reaming lugsets.	2 or 9
101 	Extension Bar	Allows reamer to extend to inboard hinge tangs.	2
204	Extension Bar	Allows reamer to extend to outer lug bushing	3
205 	Bushing	Used to align extension bar (detail 204) for reaming outer lug bushing.	3
206	Alignment Pin	Used to secure alignment bushings (details 216, 217, 218, 219, 220, and 221) in place.	3

Figure 4. Reaming Bushings (Sheet 25)

Detail No.	Name	Function	Box Location
207	Alignment Pin	Used to secure alignment bushings (details 222, 223, 224, 225, 226, and 227) in place.	3
208	Hand Knob	Secures subassembly W or Y in place.	2
216	Bushing	Use to align alignment pin (detail 206).	3
217	Bushing	Use to align alignment pin (detail 206).	3
218	Bushing	Use to align alignment pin (detail 206).	3
219	Bushing	Use to align alignment pin (detail 206).	3
220	Bushing	Use to align alignment pin (detail 206).	3
221	Bushing	Use to align alignment pin (detail 206).	3
222	Bushing	Use to align alignment pin (detail 207).	3
223	Bushing	Use to align alignment pin (detail 207).	3
224	Bushing	Use to align alignment pin (detail 207).	3
225	Bushing	Use to align alignment pin (detail 207).	3
226	Bushing	Use to align alignment pin (detail 207).	3
227	Bushing	Use to align alignment pin (detail 207).	3
264	Alignment Pin	Use to align subassembly Z.	3
265	Alignment Pin	Use to align subassembly Z.	3
266	Alignment Pin	Use to align subassembly Z.	3
267	Alignment Pin	Use to align subassembly Z.	3
268	Alignment Pin	Use to align subassembly Z.	3
269	Alignment Pin	Use to align subassembly Z.	3
270	Alignment Pin	Use to align subassembly Z.	3
271	Alignment Pin	Use to align subassembly Z.	3
272	Alignment Pin	Use to align subassembly Z.	3
273	Alignment Pin	Use to align subassembly Z.	3

Figure 4. Reaming Bushings (Sheet 26)

Detail No.	Name	Function	Box Location
274	Alignment Pin	Use to align subassembly Z.	3
275	Alignment Pin	Use to align subassembly Z.	3
294	Ratchet Wrench	Used to turn reaming tool.	1 or 9
LEGEND			
1	Detail of SPT52RE274110000TD.		
2	Detail of SPT51RE274110000TD.		
3	Detail of SPT50RE274110000TD.		
4	Detail of SPT63RE274110000TD.		
5	Detail of SPT32RE274110000TD.		
6	Detail of SPT33RE274110000TD.		
7	Detail of SPT53RE274110000TD.		
8	Detail of SPT54RE274110000TD.		
9	Detail of SPT49RE274110000TD.		
10	Not required if bushing is not damaged.		

Figure 4. Reaming Bushings (Sheet 27)

ORGANIZATIONAL AND INTERMEDIATE MAINTENANCE

STRUCTURE REPAIR

INNER WING EXTERNAL GRAPHITE EPOXY DOORS 78, 79, 82, 191, 192, AND 193

Reference Material

Structure Repair, Wing	A1-F18AC-SRM-210
Plate Set, RE174110966, Cover (Door 82)	WP005 03
Aircraft Corrosion Control	A1-F18AC-SRM-500
Form In Place Sealing	WP010 00
Inner and Outer Wing Finish System and Markings	WP027 00
Line Maintenance Access Doors	A1-F18AC-LMM-010
Nondestructive Inspection	A1-F18AC-SRM-300
Pulse Echo, Longitudinal Wave Contact Without Delay Line, For Composite Laminate Material	WP008 02
Pulse Echo, Longitudinal Wave Contact With Delay Line, For Composite Laminate Material	WP008 03
Inner Wing Skin Fixed Trailing Edge Panels and Access Cover, Delaminations	WP075 00
Structure Illustrated Parts Breakdown-Wing	A1-F18AC-SRM-410
Cover, Access - Upper, Inboard, XW56.860 to XW145.390	FIG 015 00
Cover, Access - Upper, Svo Cyl, Flap, Wg Ldg, Assy of	FIG 016 00
Cover, Access - Upper, Wing Fold Drive	FIG 017 00
Seal - Upper, LE Flap, Installation of	FIG 018 00
Structure Repair, General Information	A1-F18AC-SRM-200
Forming Sheet Metal	WP004 01
Locating Blind Holes and Trim Lines	WP004 03
Gang Channel and Plate Nut Identification and Repair	WP004 05
Heat Treatment of Aluminum Alloys	WP004 11
Adhesive, Cement, and Sealant: Preparation and Application	WP011 00
Structure Repair, Typical Repair	A1-F18AC-SRM-250
Aluminum, Graphite Epoxy, or Titanium Patch Installation and Removal	WP007 00
Graphite Epoxy Skin, Class I Damage Repair	WP008 00
Graphite Epoxy Skin, Class II Damage Repair	WP009 00
Graphite Epoxy Skin, Class III Damage Repair	WP010 00
Graphite Epoxy Skin, Class IV Damage Repair	WP011 00
Graphite Epoxy Skin, Class V Damage Repair	WP011 01
Graphite Epoxy Skin and Aluminum Honeycomb Core, Class IX Damage Repair	WP019 00

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Record of Applicable Technical Directives

None

Support Equipment Required

None

(1) Delaminations do not extend to edge of skin.

(2) Delaminations are at least 0.021 below skin surface.

(3) Diameter is 0.050 inch or less.

(4) Distance between delaminations is at least four times the diameter of largest delamination.

(5) No more than three delaminations in a 12 inch diameter circle.

Materials Required

None

1. **DAMAGE EVALUATION.** See figures 1 and 2.

2. Damage is classified as negligible and repairable. Locating and determining size of damage by visual method is organizational maintenance. Locating and determining size of damage by NDI method is intermediate maintenance. Repair zones are given in figure 2. Damage not listed or exceeding limits below requires a depot engineering disposition.

3. **NEGLECTIBLE DAMAGE.** See figure 3. Negligible damage may be allowed to exist as is. Type and limits are:

a. Delaminations between skin plies. See figure 3, section A. Determine size and location of delamination (A1-F18AC-SRM-300, WP075 00).

4. **REPAIRABLE DAMAGE.** See figure 4. Repairable damage is damage that can be permanently repaired with no adverse affect on structural integrity, flight characteristic, or safety of aircraft.

5. **Skin Surface Damage and Dents, Class I Damage.** See figure 4, section A. Class I damage is made up of:

a. Cuts, scratches, pits, erosion, or abrasions:

(1) Depth is not more than 0.005 inch.

(2) No longer than 5.0 inches.

b. Dents:

- (1) Depth is no more than 0.015 inch.
- (2) There is no skin ply delaminations related to the dent.
- (3) Fiber damage is no more than 0.005 inch depth.
- (4) No more than three dents in a 5.0 inch diameter circle.
- (5) Distance between dents is at least four times the diameter of largest dent. Measure distance between dents edge to edge.

6. **Delaminations, Class II Damage.** See figure 4, sections F, and G. Determine size and location of delaminations (A1-F18AC-SRM-300, WP008 02 and WP008 03). Class II damage is made up of:

a. Delamination open to edge:

- (1) Must not be over a splice plate.
- (2) Depth of damage is no more than 0.50 inch.
- (3) Length of damage is no more than 4.0 inches.

7. **Fiber Damage Around Fastener Holes and Surface Rips, Class III Damage.** See figure 4, section B. Class III damage is made up of:

a. Surface ply rips:

- (1) Depth is no more than 0.010 inch.
- (2) Width is no more than 0.25 inch.
- (3) No longer than 2.0 inches.

b. Loose or missing fibers or skin abrasions around fastener holes and/or counter sinks:

- (1) Depth is no more than 0.010 inch.
- (2) Width is no more than 0.25 inch.
- (3) No longer than 2.0 inches.

8. **Skin Penetration, Class IV Damage.** See figure 4, section C. Class IV damage is made up of:

a. Damage must be in a repair zone, see figure 2.

b. Mark damaged area determined by NDI (A1-F18AC-SRM-300, WP008 02 and WP008 03) to the smallest diameter of 1.25 inch, 2.00 inch, 3.00 inch, or 4.00 inch as shown in figure 4, detail D.

c. Distance between repairs is more than six times the diameter of the damage cutout.

d. Edge of damage must be located within minimum dimension as shown on figure 4, detail D.

9. **Delaminations, Class V Damage.** See figure 4, section E. Determine size and location of delaminations (A1-F18AC-SRM-300, WP008 02 and WP008 03). Class V damage is made up of:

a. Delamination not open to edge:

- (1) Must not be over a splice plate.
- (2) Damage must be located within a 3.0 inch diameter circle.
- (3) Multiple delaminations located within a 3.0 inch diameter circle shall be considered as one damage.
- (4) Minimum spacing measured edge to edge between damages shall be four diameters of largest damage.

10. **Edge Damage, Class IX Damage.** See figure 4, section H. Class IX damage is made up of:

a. Skin damage:

- (1) Depth of damage is no more than 0.20 inches.
- (2) Length of damage is no more than 4.00 inches.
- (3) Edge to edge spacing is no less than four times the length of largest of two nearest damages.
- (4) Edge damage with class III damage is acceptable if class III limitations are not exceeded.

11. REPAIRS.

12. Class I, II, III, V and IX damages are organizational maintenance. Class IV damage is intermediate maintenance. Damages can be repaired by the procedures referenced below:

a. Repair class I damage (A1-F18AC-SRM-250, WP008 00).

b. Repair class II damage (A1-F18AC-SRM-250, WP009 00).

c. Repair class III damage (A1-F18AC-SRM-250, WP010 00).

d. Select patch per Patch Selection, this WP, and repair class IV damage (A1-F18AC-SRM-250, WP011 00).

e. Repair class V damage (A1-F18AC-SRM-250, WP011 01).

f. Repair class IX damage (A1-F18AC-SRM-250, WP019 00).

NOTE

All other repairs and weight limitations require depot engineering disposition.

13. **PATCH SELECTION.** Select applicable patch.

NOTE

Patches are part of 74K000006 bolted repair kit (A1-F18AC-SRM-250, WP011 00).

a. For 1.25 inch diameter damage use -1001 patch.

b. For 2.00 inch diameter damage use -1003 patch.

c. For 3.00 inch diameter damage use -1005 patch.

d. For 4.00 inch diameter damage use -1007 patch.

14. **COVER (DOOR 79), REAMING HOLES IN DOOR AND SUBSTRUCTURE.** Ream indicated holes to ease installation and removal of door 79. This procedure is intermediate level maintenance. Reamers are part of the tool kit. Use carbide reamers, TFIM25. 121-2540, -3175, and -3800 as applicable, for holes where graphite/epoxy exists. Use high speed steel reamers, TFIM25. 116-2540, -3175, and -3800 as applicable, only for holes in aluminum.

Support Equipment Required

Part Number or Type Designation

Nomenclature

74D110325-1001

Aircraft Structure
Repair Tool Kit

Materials Required

None

a. Remove door 79 (A1-F18AC-LMM-010).

b. Inspect all holes and record diameters.

NOTE

Only holes with diameters less than 0.2540, 0.3175, and 0.3800 for 1/4, 5/16, and 3/8 inch, respectively, are applicable for reaming procedure.



To prevent delaminations and tear outs around holes, replace carbide reamers every 20 holes.

High speed steel reamers should be resharpened every 100 holes to prevent hole tear out.

Use extreme care when reaming to prevent elongated and oversized holes.

Visually inspect reamers every five holes for nicks and chips; damaged reamers cause elongated and oversize holes.

Use drill stops to prevent reamers from contacting nut plate and damaging reamer. Use drill blocks to keep holes perpendicular to mold line and minimize oversize holes.

c. Hand ream holes in door and substructure to applicable diameter. Ream door and substructure separately.

NOTE

Final hole diameters after reaming are 0.254 +0.003 -0.0000, 0.317 +0.003 -0.000, and 0.380 +0.003 -0.0000 for 1/4, 5/16, and 3/8 inch holes, respectively.

d. Reinspect all reamed holes and record diameters.

e. Oversize and elongated holes require depot engineering disposition.

f. Install door 79 (A1-F18AC-LMM-010).

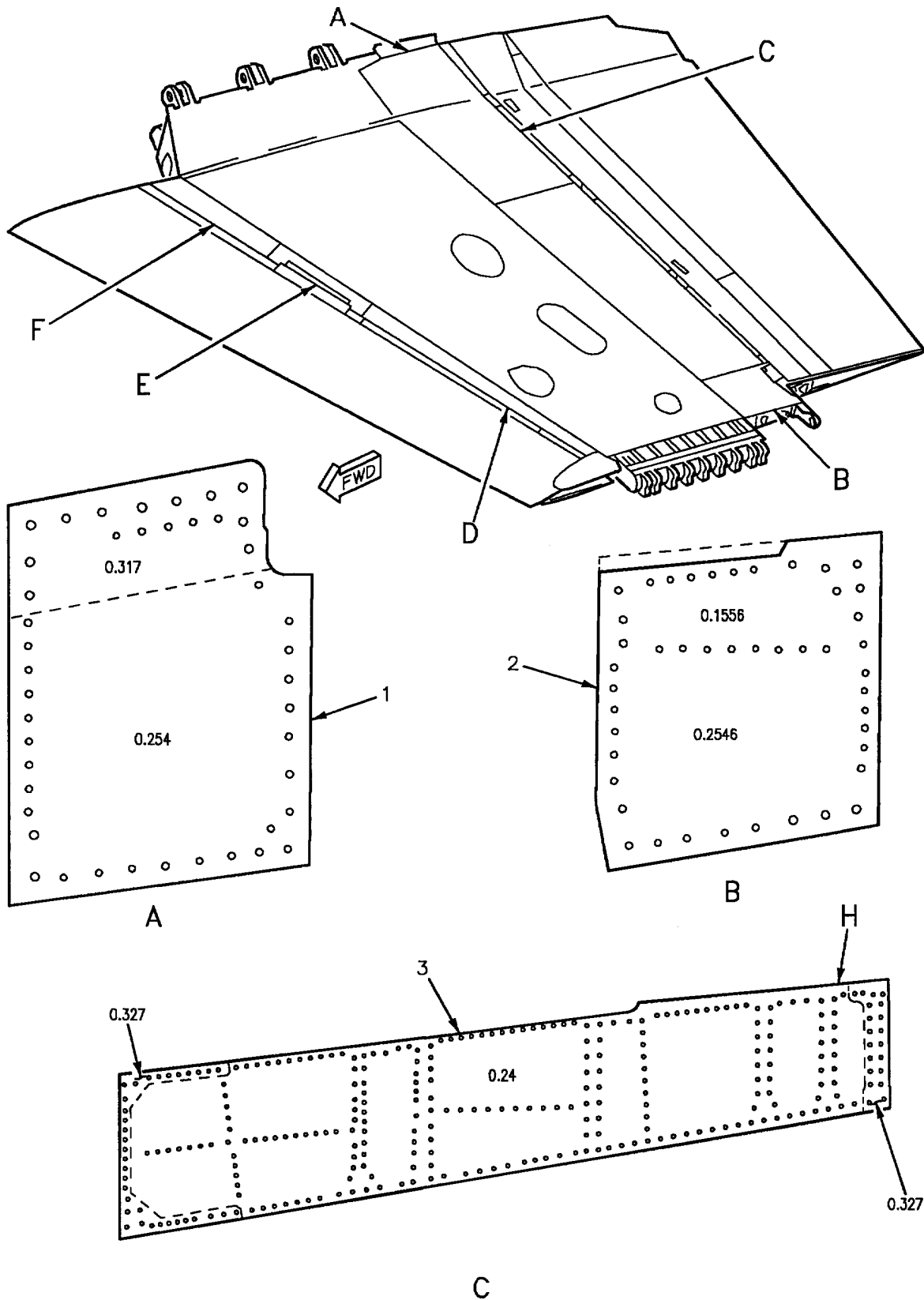


Figure 1. Material Index (Sheet 1)

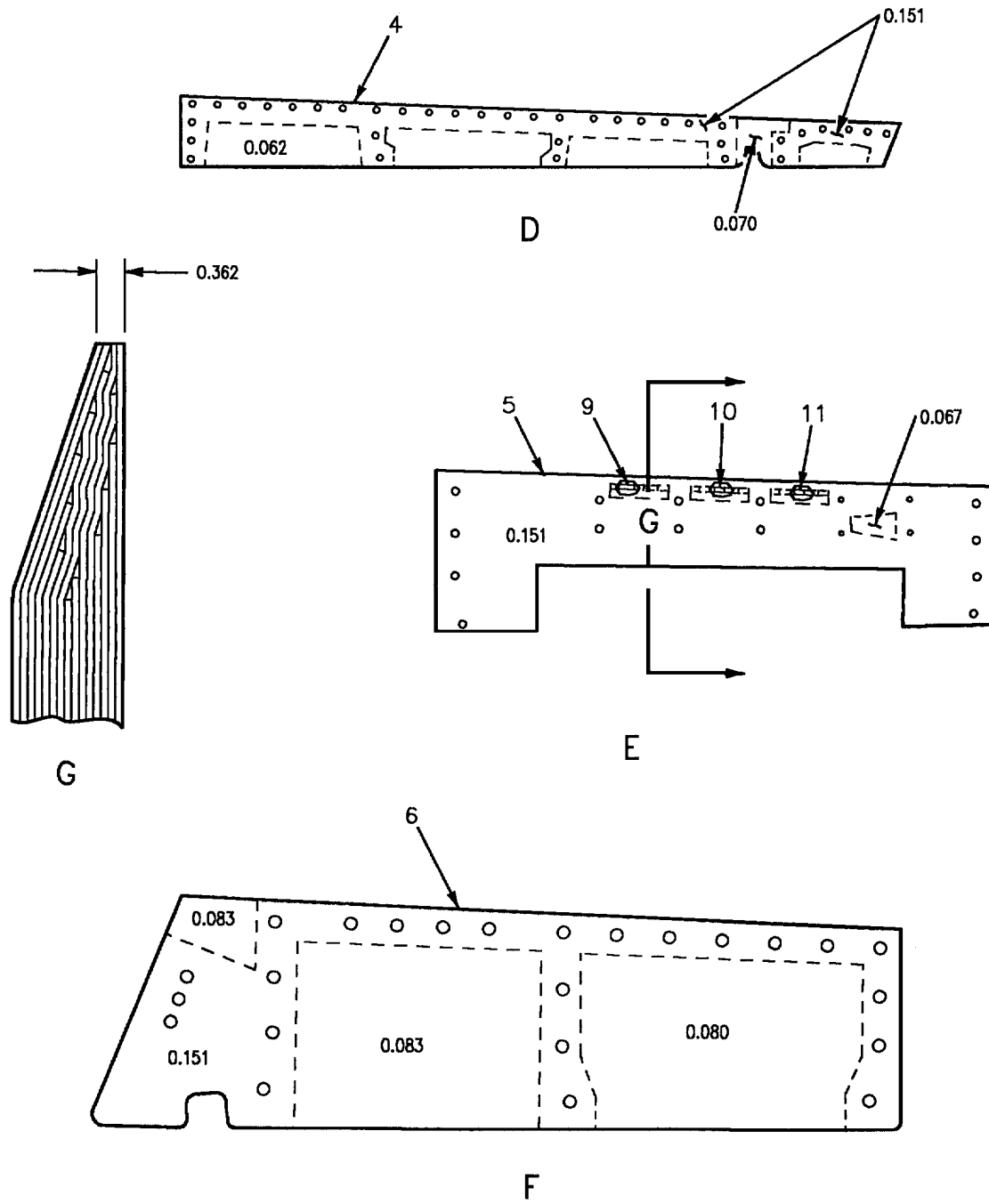


Figure 1. Material Index (Sheet 2)

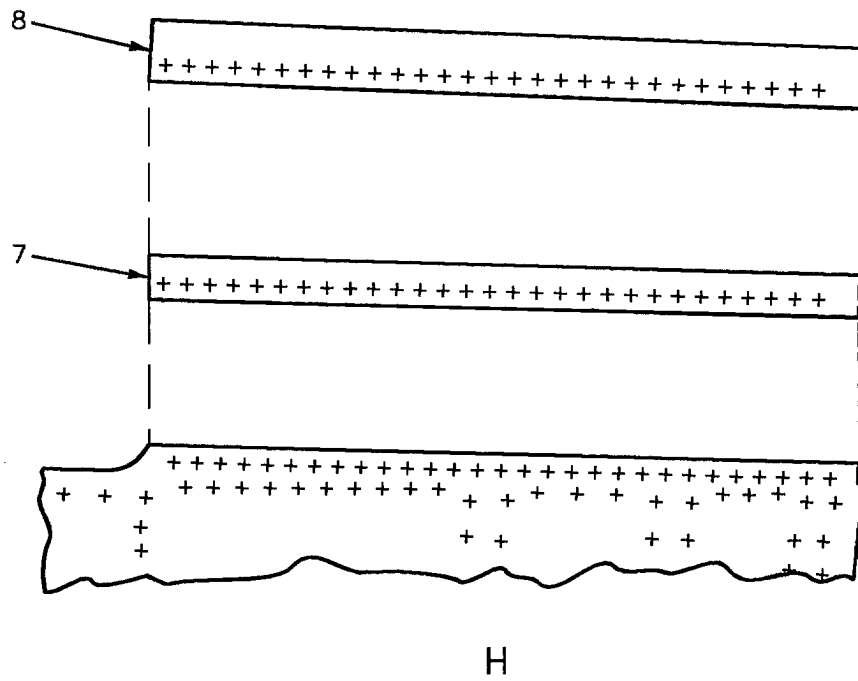


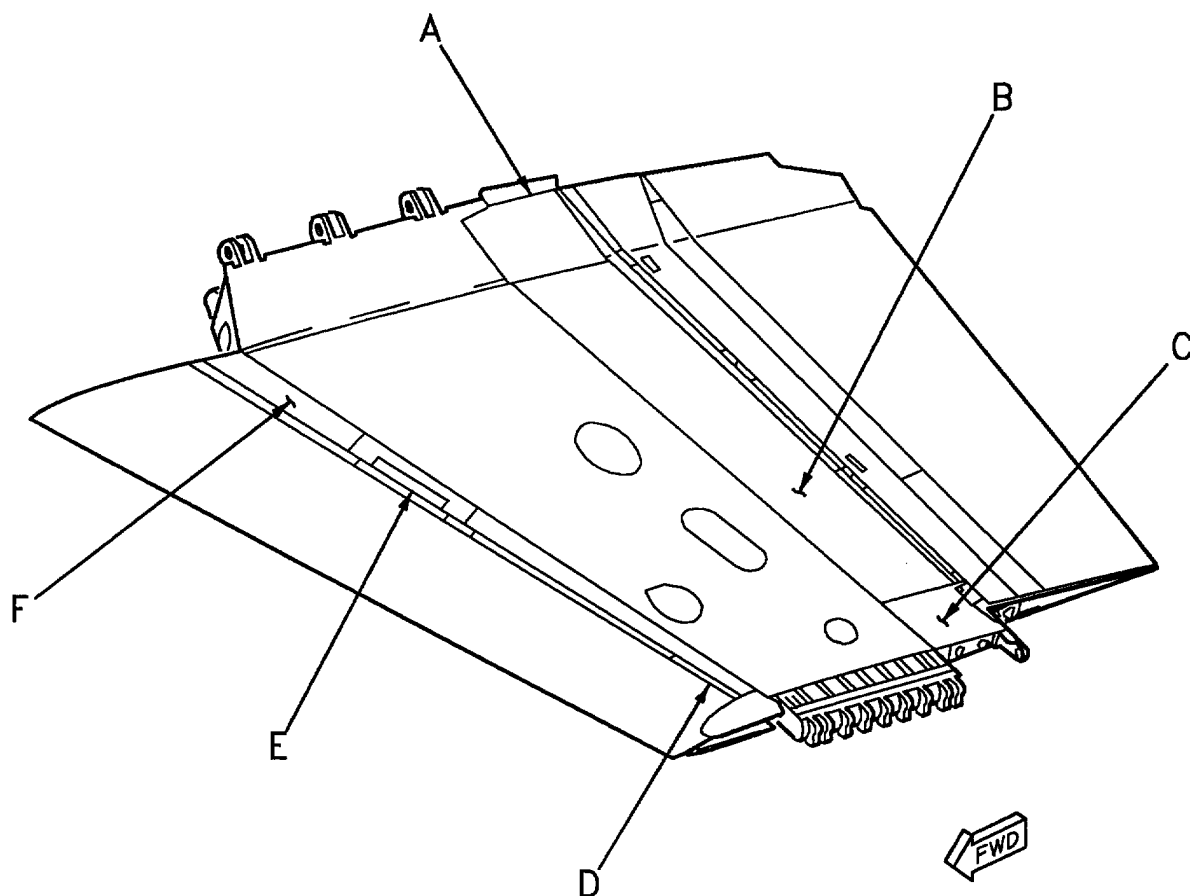
Figure 1. Material Index (Sheet 3)

IDX NO.	EFT	Nomenclature and Part No.	Description	Material
1	<div>4</div> <div>5</div> <div>19</div> <div>20</div> <div>7</div> <div>10</div>	Cover (Door 78) 74A110965-2059 74A110965-2060 74A110965-2061 74A110965-2062 74A110965-2063, -2064 74A110965-2065, -2066	<div>1</div>	<div>2</div>
2	<div>3</div> <div>9</div> <div>10</div>	Cover (Door 82) 74A110966-2033, -2034 74A110966-2035, -2036 74A110966-2037, -2038	<div>1</div>	<div>2</div>
3	<div>13</div> <div>4</div> <div>14</div> <div>8</div> <div>18</div>	Cover (Door 79) 74A110956-2155 74A110956-2156 74A110956-2165 74A110956-2166 74A110956-2167, -2168	<div>1</div>	<div>2</div>
4	<div>12</div> <div>15</div>	Seal (Door 191) 74A110943-1011, -1012 74A110943-1023, -1024	<div>1</div>	<div>2</div>
5	<div>6</div> <div>16</div> <div>17</div> <div>15</div>	Seal (Door 192) 74A110943-1009, -1010 74A110943-1015, -1016 74A110943-1017, -1018 74A110943-1021, -1022	<div>1</div>	<div>2</div>
6	<div>6</div> <div>11</div> <div>15</div>	Seal (Door 193) 74A110943-1007, -1008 74A110943-1013, -1014 74A110943-1019, -1020	<div>1</div>	<div>2</div>
7		Shim 74A110866-3611	0.032 Sheet	5052-H39 Al Lam
8		Seal 74A110948-2007, -2008	Plastic Laminate	<div>21</div>
9		Spacer 74A110866-3187, -3188	Nylon Sheet	L-P-410 Nylon
10		Spacer 74A110866-3109, -3190	Nylon Sheet	L-P-410 Nylon
11		Spacer 74A110866-3191, -3192	Nylon Sheet	L-P-410 Nylon

Figure 1. Material Index (Sheet 4)

IDX NO.	EFT	Nomenclature and Part No.	Description	Material
LEGEND				
1			Skin is fabricated of varying plys of graphite laminate and glass laminate.	
2			Graphite epoxy prepreg and glass epoxy prepreg.	
3			161353 thru 161720.	
4			161353 thru 161716.	
5			161353 thru 161717.	
6			161353 thru 161519.	
7			161925 thru 161987.	
8			161717 thru 162852.	
9			161721 thru 161987.	
10			162394 and Up.	
11			161520 thru 161924.	
12			161353 thru 161924.	
13			161353 thru 161719, 161931.	
14			161720 thru 161930, 161932 thru 162852.	
15			161925 and Up.	
16			161520 thru 161736.	
17			161737 thru 161924.	
18			162853 and Up.	
19			161717 thru 161761.	
20			161718 thru 161761.	
21			Fiberglass reinforced plastic laminate.	

Figure 1. Material Index (Sheet 5)



LEGEND



REPAIR ZONE : REPAIRS TO CLASS I, II,
III, IV, OR V DAMAGE
ALLOWED.



REPAIR ZONE : REPAIRS TO CLASS I, II,
III, OR V DAMAGE ALLOWED.
REPAIR TO CLASS IV DAMAGE
REQUIRES ENGINEERING
DISPOSITION.

Figure 2. Repair Zones (Sheet 1)

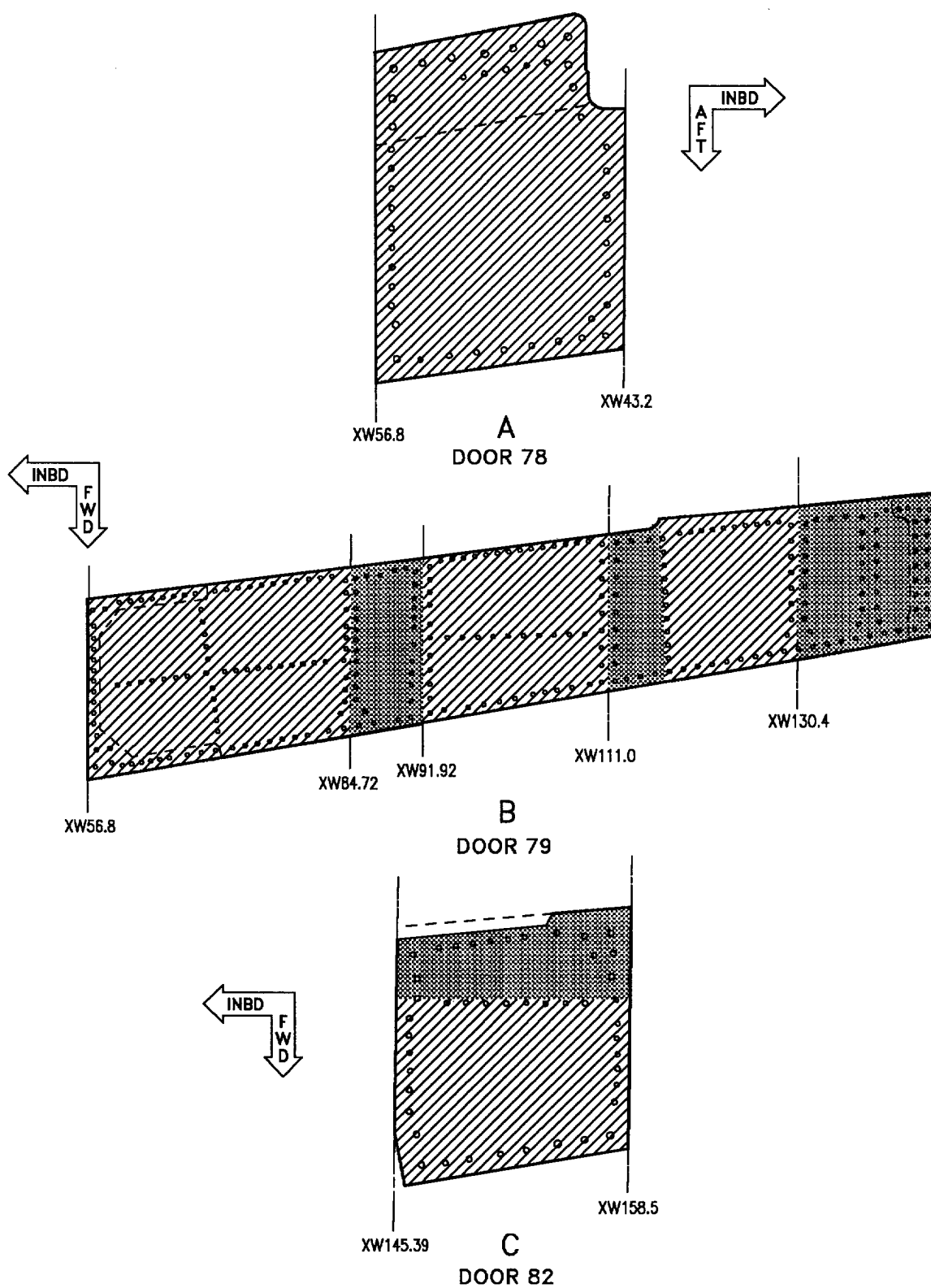
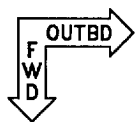
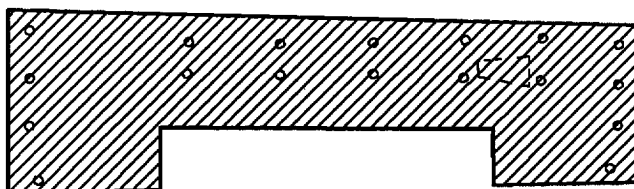
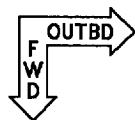


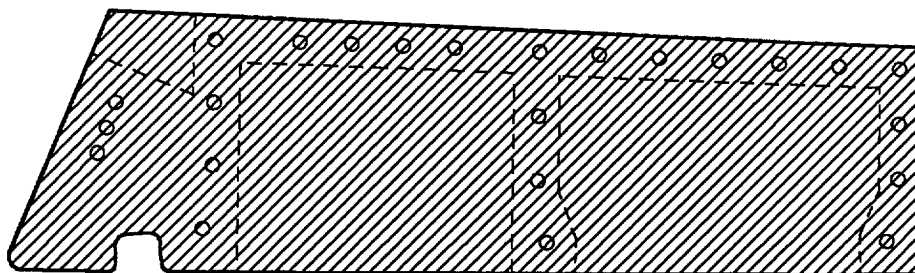
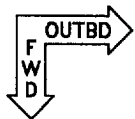
Figure 2. Repair Zones (Sheet 2)



D
DOOR 191

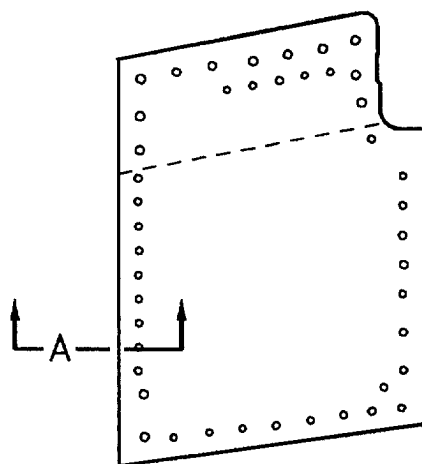


E
DOOR 192

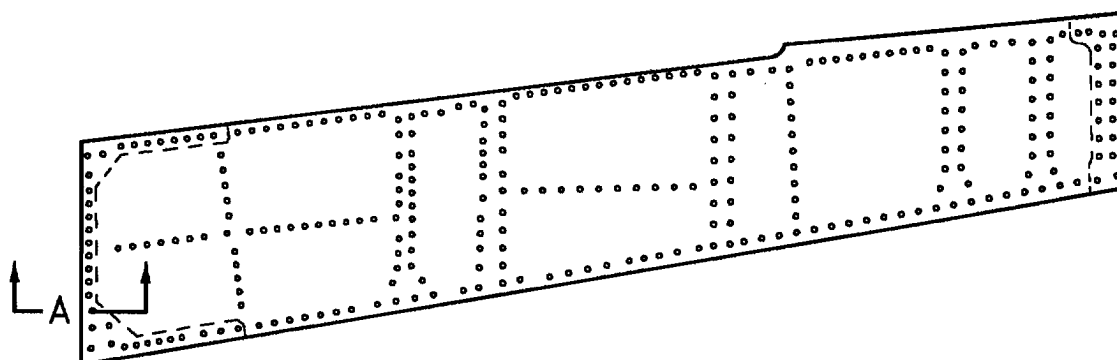


F
DOOR 193

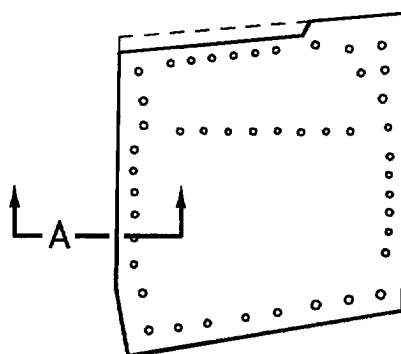
Figure 2. Repair Zones (Sheet 3)



DOOR 78

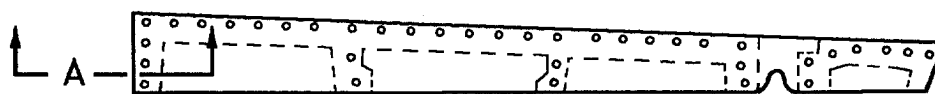


DOOR 79

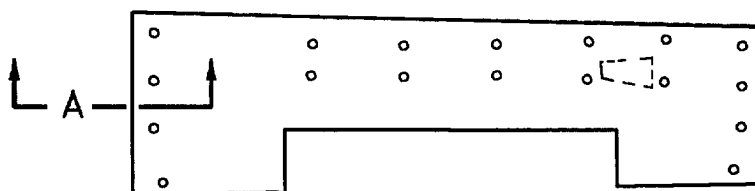


DOOR 82

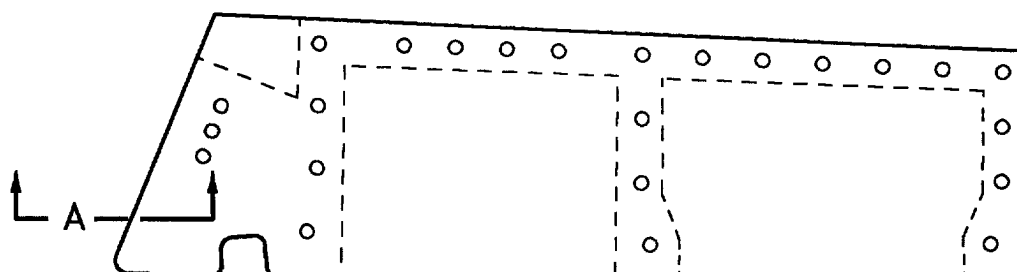
Figure 3. Negligible Damage, Graphite Epoxy Skin (Sheet 1)



DOOR 191



DOOR 192



DOOR 193

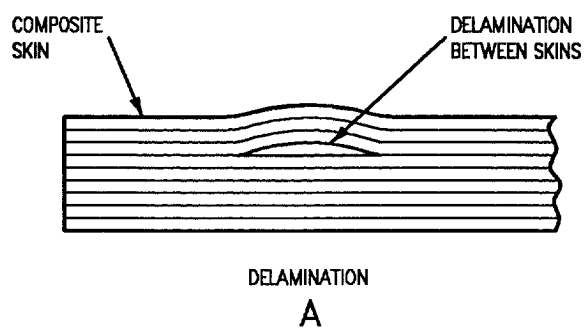


Figure 3. Negligible Damage, Graphite Epoxy Skin (Sheet 2)

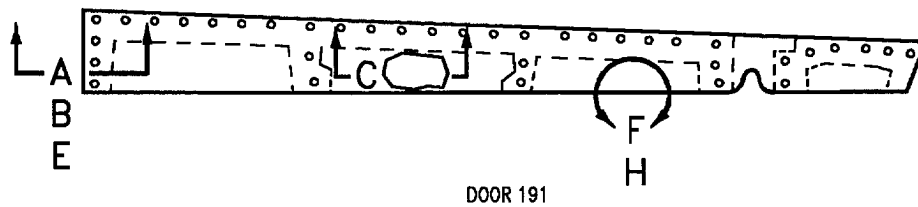
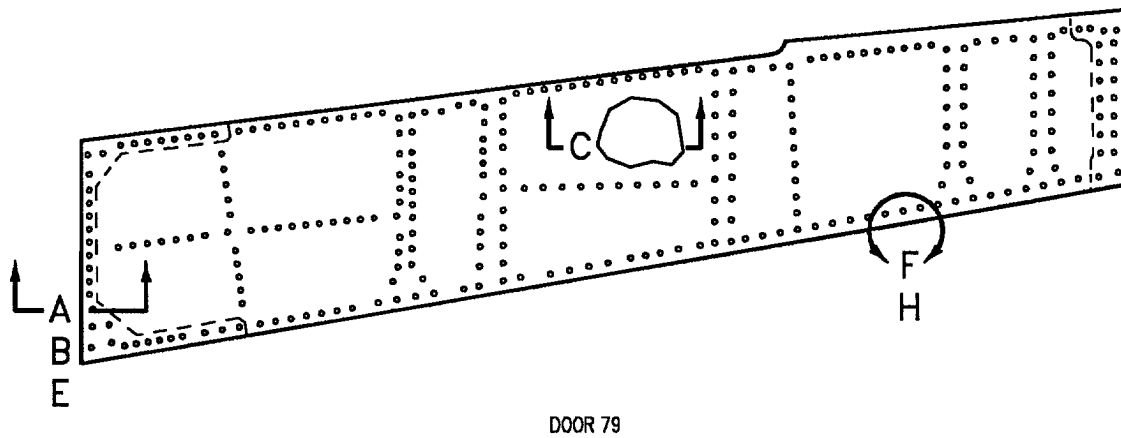
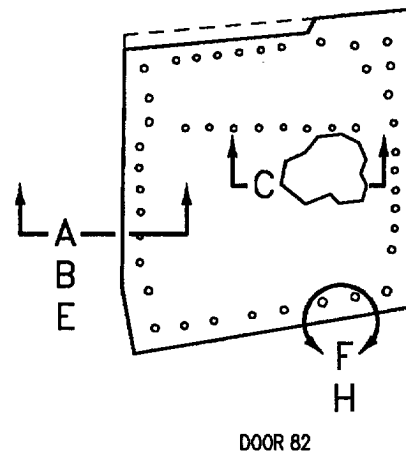
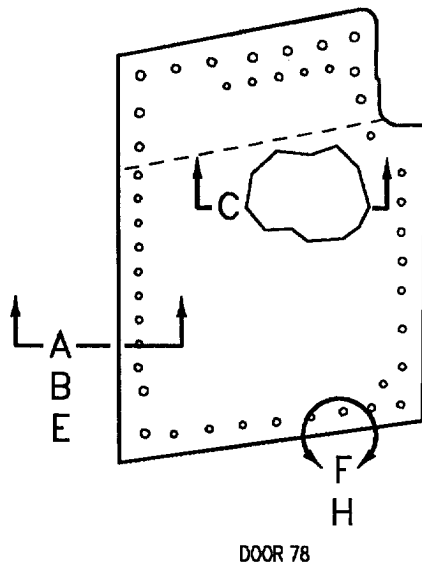


Figure 4. Repairable Damage, Graphite Epoxy Skin (Sheet 1)

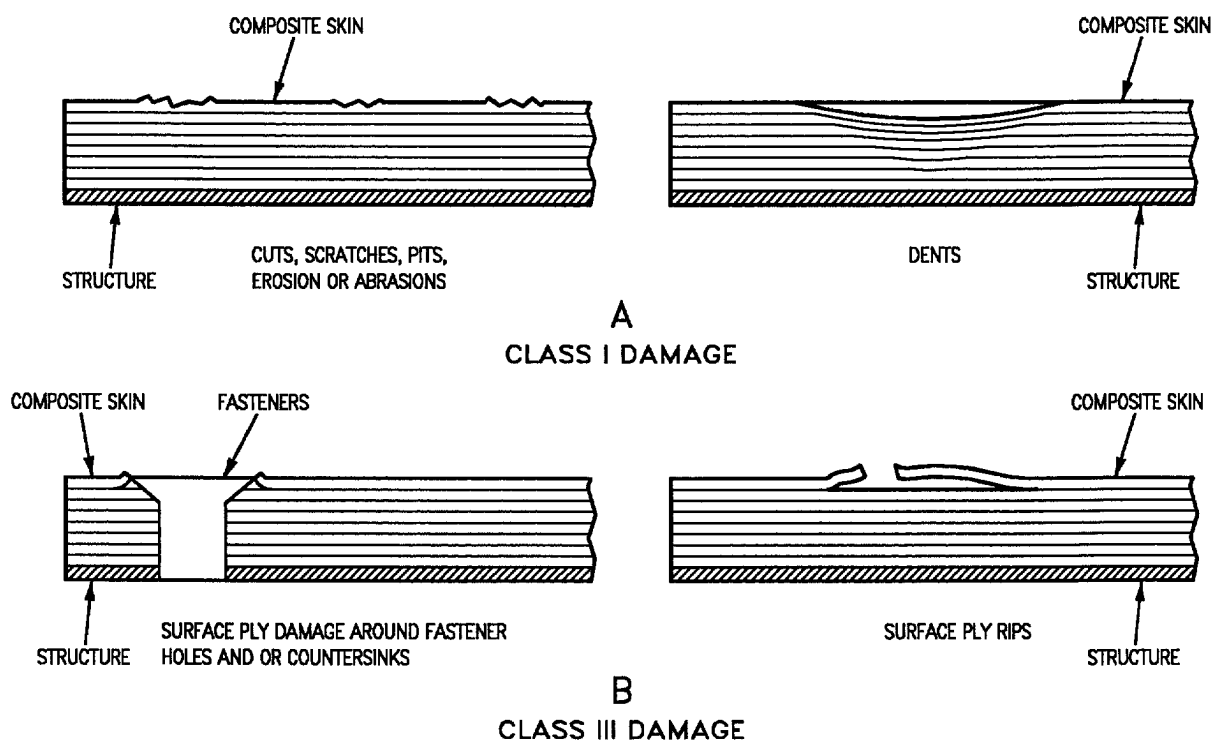
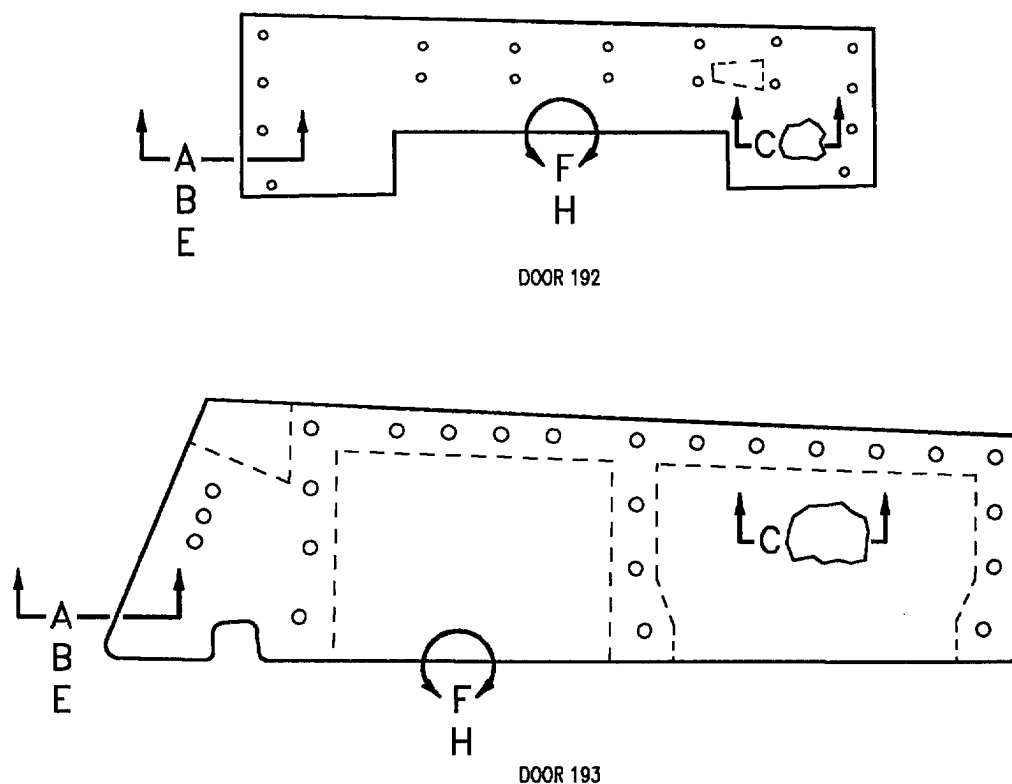


Figure 4. Repairable Damage, Graphite Epoxy Skin (Sheet 2)

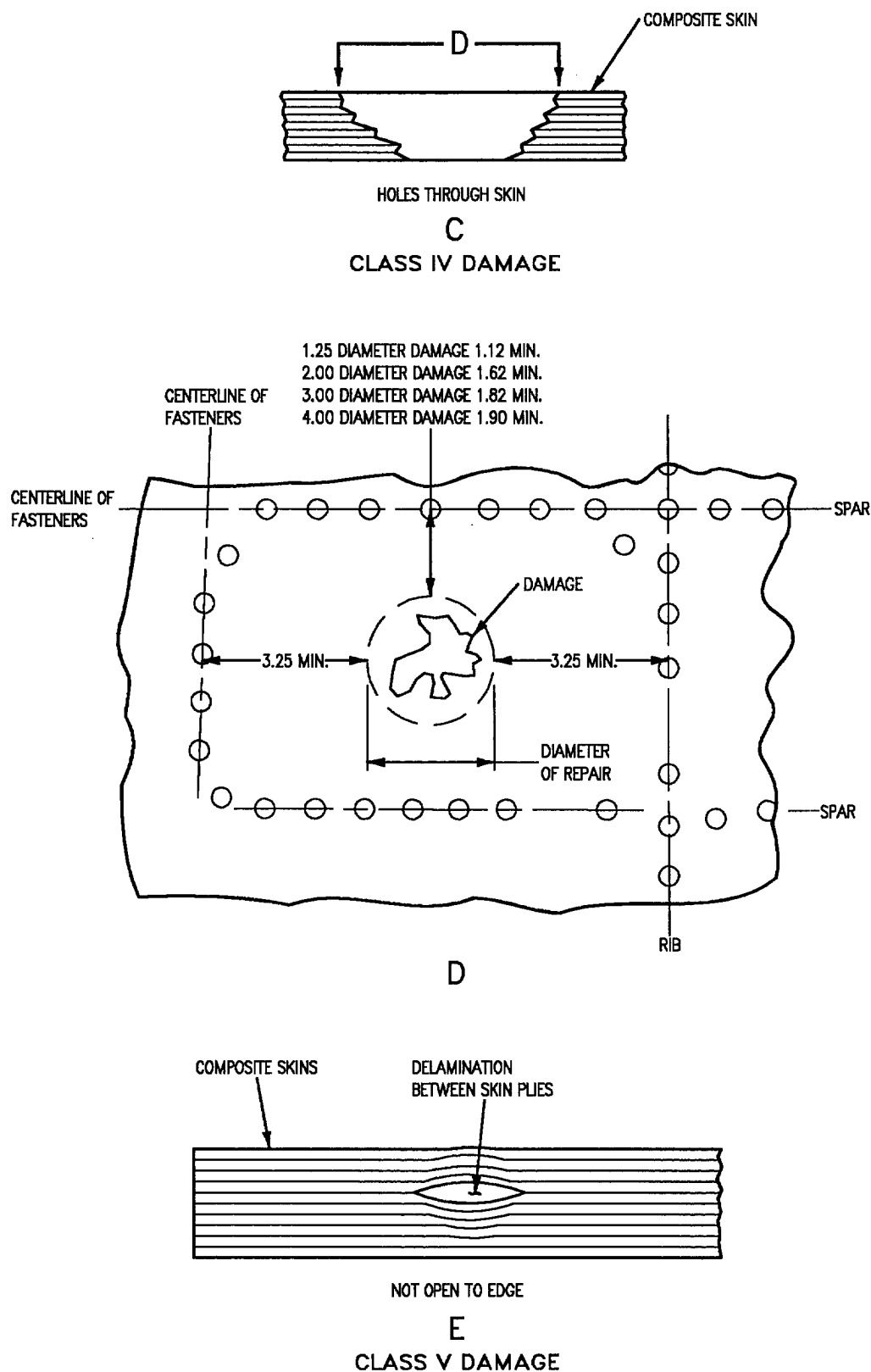
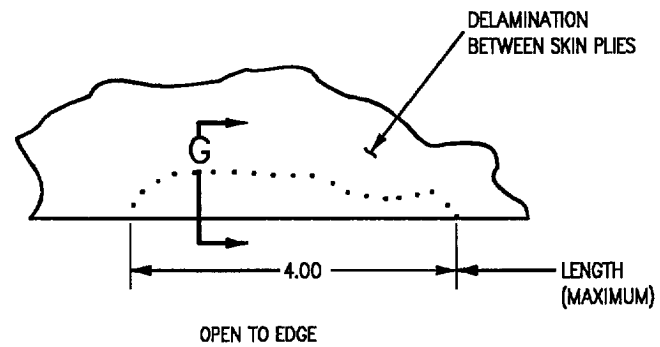
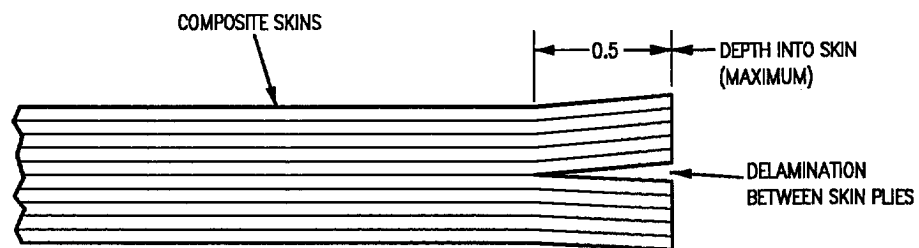


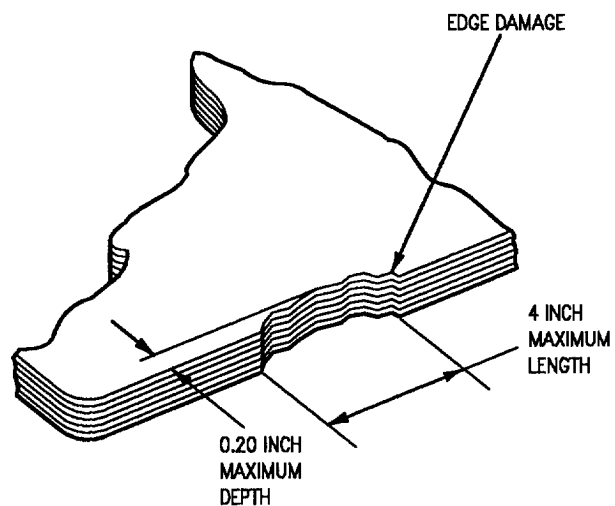
Figure 4. Repairable Damage, Graphite Epoxy Skin (Sheet 3)



F
CLASS II DAMAGE



G



H
CLASS IX DAMAGE

Figure 4. Repairable Damage, Graphite Epoxy Skin (Sheet 4)

15. REPLACEMENTS.

16. **COVER (DOOR 78).** On 161353 thru 161987, cover is replaceable and requires trimming and drilling. Engineering disposition is required for trimming and drilling. On 162394 and Up, cover is interchangeable. Fastener attaching hardware is shown on figure 5. For fasteners (A1-F18AC-SRM-410, FIG 016 00). Install removable fasteners wet with MIL-S-83430. For replacement rivets, attaching plate nuts (A1-F18AC-SRM-200, WP004 05). For form in place sealing (A1-F18AC-SRM-500, WP010 00). Apply finish system as required (A1-F18AC-SRM-500, WP027 00).

17. **COVER (DOOR 79).** Cover is replaceable and requires trimming and drilling. Engineering disposition is required for trimming and drilling. Fastener attaching hardware is shown on figure 6. For fasteners (A1-F18AC-SRM-410, FIG 015 00). Install removable fasteners wet with MIL-S-83430. For replacement rivets, attaching plate nuts (A1-F18AC-SRM-200, WP004 05), bond replacement gang channels and plate nuts with MIL-S-83430 (A1-F18AC-SRM-200, WP011 00). For form in place sealing (A1-F18AC-SRM-500, WP010 00). Make sure all mating structure is sealed. Follow fastener installation sequence chart below for form in place seal installation. See figure 11 for hole numbers.

SEQ	Hole Number	ZONE
1	1238, 1237, 1236, 1239, 1240, 1241	1
2	893, 1129	1
3	889, 1126	1
4	1242, 1243, 1123, 1120	1
5	1235, 1234, 1132, 896	1
6	1229, 1220, 1226, 897	1
7	1223, 1232, 1225	1
8	1259, 1250, 1251, 1263, 1253	1
9	1247, 1244, 1254, 885	1
10	1270, 1268, 1278, 881	2A
11	1117, 1115	2A
12	1284, 1286, 1275	2A
13	1133, 1134, 900	2B
14	1213, 1215, 1212	2B
15	1211, 1208	2B
16	1207, 1204, 1200	2B
17	1137, 1140, 1143	2B
18	903, 907	2B
19	1288, 1291, 1294	2A
20	878, 874	2A

SEQ	Hole Number	ZONE
21	1112, 1109, 1106	2A
22	429, 1103	2A
23	1014	2A
24	1198, 1188, 1191	2B
25	1194, 1192, 911	2B
26	914	3B
27	1147	3B
28	1178, 1176	3B
29	1182, 1172	3B
30	917, 918	3B
31	1148	3B
32	1152	3B
33	1156, 1159	3B
34	1163, 1160	3B
35	1116, 920	3B
36	1297, 1300, 1303	3A
37	1100, 1098, 1096	3A
38	872, 869, 866, 864, 373, 863	3A
39	18, 15, 124	3A
40	49, 51, 53	3A

Apply finish system as required (A1-F18AC-SRM-500, WP027 00). Install seal (92) and shim (93) on new cover per substeps below:

a. Align seal (92) and shim (93) to cover and mate drill.

b. Install rivets (91) to cover, seal (92), and shim (93).

18. **COVER (DOOR 82).** On 161353 thru 161987, cover is replaceable. Replacement of cover (door 82) requires depot tooling (WP005 03). On 162394 and Up, cover is interchangeable. Fastener attaching hardware is shown on figure 7. For fasteners (A1-F18AC-SRM-410, FIG 017 00). Install removable fasteners wet with MIL-S-83430. For replacement rivets, attaching plate nuts (A1-F18AC-SRM-200, WP004 05). For form in place sealing (A1-F18AC-SRM-500, WP010 00). Make sure all mating structure is sealed. Apply finish system as required (A1-F18AC-SRM-500, WP027 00).

19. **SEAL (DOOR 191).** On 161353 thru 161924, seal is replaceable and requires trimming and drilling. For locating trim lines and blind holes (A1-F18AC-SRM-200, WP004 03). On 161925 and Up, seal is interchangeable. Fastener attaching

hardware is shown on figure 8. For fasteners (A1-F18AC-SRM-410, FIG 018 00). For replacement rivets, attaching plate nuts (A1-F18AC-SRM-200, WP004 05). Form in place seal (A1-F18AC-SRM-500, WP010 00). Apply finish system as required (A1-F18AC-SRM-500, WP027 00).

20. **SEAL (DOOR 192).** Seal is replaceable and requires trimming and drilling. For locating trim lines and blind holes (A1-F18AC-SRM-200, WP004 03). On 161925 and Up, seal is interchangeable. Fastener attaching hardware and spacers are shown on figure 9. Fabricate spacers (8, 9, and 10) at intermediate maintenance level per detail A. For fasteners (A1-F18AC-SRM-410, FIG 018 00). For replacement rivets, attaching plate nuts (A1-F18AC-SRM-200, WP004 05). Form in place seal (A1-F18AC-SRM-500, WP010 00). Apply finish system as required (A1-F18AC-SRM-500, WP027 00).

21. **SEAL (DOOR 193).** On 161353 thru 161924, seal is replaceable and requires trimming. For locating trim lines (A1-F18AC-SRM-200, WP004 03). On 161925 and Up, seal is interchangeable. Fastener attaching hardware is shown on figure 10. For fasteners (A1-F18AC-SRM-410, FIG 018 00). For replacement rivets, attaching plate nuts (A1-F18AC-SRM-200, WP004 05). Form in place seal (A1-F18AC-SRM-500, WP010 00). Apply finish system as required (A1-F18AC-SRM-500, WP027 00). Fabricate stiffener (4) and clip (8) per views A and B. Fabrication is intermediate level maintenance. Install stiffener (4) and clip (8) on new seal per substep below.

- a. Mate drill clip (8) and seal.
- b. Install pins and collars to clip (8) and seal.
- c. Mate drill stiffener (4) and seal.



Rivets are to be squeeze driven only.

- d. Install rivets (3) to seal and stiffener (4).

22. **GANG CHANNEL AND PLATE NUT REPLACEMENT.** See figure 12. Repair or replace damaged gang channels or plate nuts for doors 79 or 82 on rear spar, 74A110609. This repair is typical for all spar bay areas where access is possible. For spar bay

areas where access is not possible a Depot Engineering Disposition is required. Clip fabrication is intermediate level maintenance. For fastener information (A1-F18AC-SRM-410, FIG 015 00 or FIG 017 00). For attaching hardware information refer to Replacements, this work package. For gang channel and plate nut repair (A1-F18AC-SRM-200, WP004 05).

Support Equipment Required

None

Materials Required

Specification or Part Number

Nomenclature

EA9321A/B

Adhesive

QQ-A-250/12

7050-0 Al Aly,
0.050 Thick, (For
clips) as required

- a. Remove door 79 or 82 as required (A1-F18AC-LMM-010).

WARNING

Do not drill out rivets to remove damaged hardware. Damage to composite skin may occur.

- b. Remove damaged gang channel or plate nut by filing or grinding bucked end of attaching rivet.

- c. Fabricate clip.

(1) Determine clip's dimensions and bend information from spar bay area being repaired. For fabrication instructions (A1-F18AC-SRM-200, WP004 01).

(2) Heat treat clip to T6 condition (A1-F18AC-SRM-200, WP004 11).

- d. Locate holes in clip to match hole locations in spar.

- e. Drill holes in clip first-oversize from fastener holes.

- f. Attach replacement hardware to clip using rivets. Rivets shall be flush with clip.

g. Prepare surface of spar and clip per Surface Preparation of Aluminum (A1-F18AC-SRM-250, WP007 00).



Adhesive

5

h. Bond clip to spar using adhesive (A1-F18AC-SRM-200, WP011 00). Hold clip in place with bolts

during cure. Adhesive may be air cured at room temperature for five days.

i. Attach clip to spar vertical stiffeners or rib vertical stiffeners using two rivets per side, where possible. Do not attach clip to spar or rib webs.

j. Clean repair area of any shavings or broken hardware.

k. Gage fastener hole depth to determine correct fastener grip length.

l. Install door 79 or 82 (A1-F18AC-LMM-010). In repair area, use correct grip length fasteners determined in previous step.

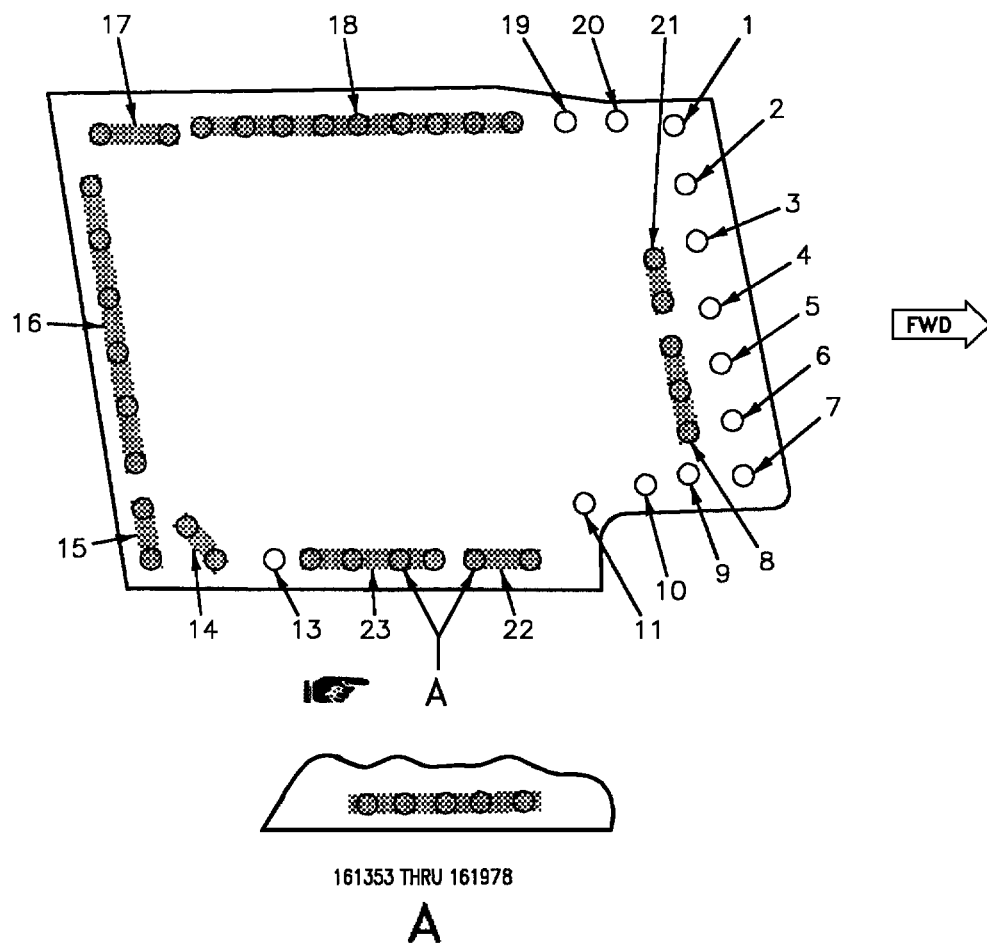


Figure 5. Cover (Door 78) Replacement (Sheet 1)

IDX NO.	EFT		Nomenclature	Part Number
1		<div>1</div> <div>13</div>	Plate Nut Spacer	F49249E6-1 4M30D616-125
2		<div>1</div> <div>13</div> <div>5</div>	Plate Nut Spacer	F49249E6-1 4M30D616-125
3		<div>1</div> <div>13</div> <div>5</div>	Plate Nut Spacer	F49249E6-1 4M30D616-125
4	<div>20</div> <div>20</div>	<div>1</div> <div>13</div>	Plate Nut Spacer Bushing Plate	F49249E6-2 74A110972-2001, -2002 74B110057-2001 74A110972-2003, -2004
5	<div>20</div> <div>8</div> <div>18</div> <div>8</div> <div>9</div> <div>10</div>	<div>1</div> <div>13</div>	Plate Nut Shim Spacer Plate Bushing Bracket Bracket Bracket	F49249E6-1 74A110972-2013 74A110972-2007, -2008 74A110972-2019, -2020 74B110057-2001 74A110972-2005, -2006 74A110972-2017, -2018 74A110972-2021, -2022
6	<div>20</div> <div>20</div>	<div>1</div> <div>13</div>	Plate Nut Spacer Bushing Plate	F49249E6-1 74A110972-2009, -2010 74B110057-2001 74A110972-2011, -2012
7		<div>2</div> <div>14</div>	Plate Nut Spacer	F50339-7-2 4M30D716-125
8	<div>8</div> <div>9</div> <div>10</div>	<div>3</div> <div>15</div>	Gang Channel Spacer Spacer Bracket	G18421JL2-5-10 74A110866-3623 74A110866-3649, -3650 74A110866-3713, -3714
9		<div>3</div> <div>15</div>	Plate Nut	F49249E5-2

Figure 5. Cover (Door 78) Replacement (Sheet 2)

IDX NO.	EFT		Nomenclature	Part Number
10		<div>3</div> <div>15</div>	Plate Nut Shim	F49249E5-5 NAS463XDD516
11		<div>3</div> <div>15</div>	Plate Nut Shim	F49251E5-4 NAS463YDD516H
12	<div>6</div>	<div>11</div>	Gang Channel Shim	G1842JL6-5-11 4M49A5DM11-5
13		<div>3</div> <div>15</div>	Plate Nut Shim	F49249E5-6 4M30D516-125
14		<div>3</div> <div>15</div>	Plate Nut	F49249E5-5
15		<div>3</div> <div>15</div>	Gang Channel Shim	G18421JL4-5-12 4M49ADL12-2
16		<div>3</div> <div>15</div>	Gang Channel Shim	G18421JL6-5-13 4M49A5DM13-6
17		<div>1</div> <div>13</div>	Plate Nut Spacer	F49249E6-2 4M30D616-125
18		<div>3</div> <div>15</div>	Gang Channel	G18421JL5-5-9
19		<div>1</div> <div>13</div> <div>4</div>	Plate Nut Spacer	F49249E6-1 4M30D616-125
20		<div>1</div> <div>13</div>	Plate Nut Spacer	F49249E6-2 4M30D616-125
21		<div>3</div> <div>15</div>	Gang Channel	G18421JL2-5-10
22	<div>7</div> <div>22</div> <div>24</div> <div>17</div>	<div>12</div> <div>21</div> <div>23</div> <div>23</div>	Gang Channel Gang Channel Gang Channel Spacer	3M464N8A2F3 3M464N8A2F1 3M464N8A2F2 74A110866-3223

Figure 5. Cover (Door 78) Replacement (Sheet 3)





























IDX NO.	EFT		Nomenclature	Part Number
23		 	Gang Channel Shim	3M465N10A-4-6 4M49A5DM10-4
LEGEND				
 Hole diameter is 0.3750 +0.0030 -0.000, 161353 thru 161987.  Hole diameter is 0.4375 +0.0030 -0.000, 161353 thru 161987.  Hole diameter is 0.3125 +0.0030 -0.000, 161353 thru 161987.  Two required.  Three required.  161363 thru 161978.  161979 thru 162444.  161353 thru 161727.  161728 thru 161759.  161760 and Up.  Hole diameter is 0.3125 +0.0030 -0.0000, 161353 thru 161978.  Hole diameter is 0.2500 +0.0030 -0.0000, 161979 thru 161987.  Hole diameter is 0.3850 +0.0080 -0.0000, 162394 and Up. Substructure requires different hole size.  Hole diameter is 0.4520 +0.0080 -0.0000, 162394 and Up. Substructure requires different hole size.  Hole diameter is 0.3220 +0.0070 -0.0000, 162394 and Up. Substructure requires different hole size.  Hole diameter is 0.2500 +0.0070 -0.0000, 162394 and Up. Substructure requires different hole size.  162445 and Up.  161728 and Up.  Hole diameter 0.3125 +0.0030 -0.0000, 161979 thru 161987.  161363 and Up.  Hole diameter is 0.2550 +0.0070 -0.0000, 162394 thru 162444. Substructure requires different hole size.  162445 thru 163118.  Hole diameter is 0.2550 +0.0070 -0.0000. Substructure requires different hole size.  163119 and Up.  161979 and Up.				

Figure 5. Cover (Door 78) Replacement (Sheet 4)

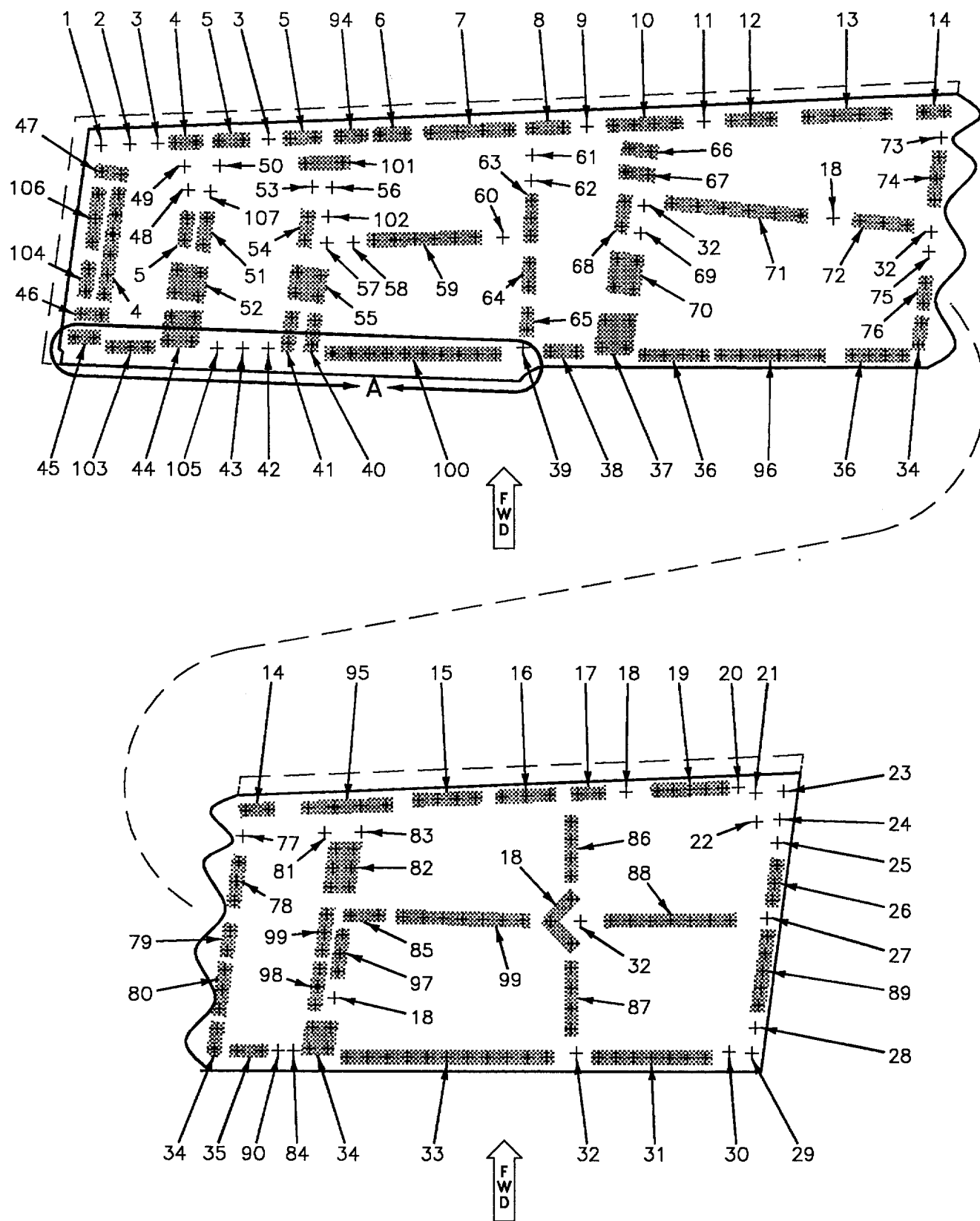
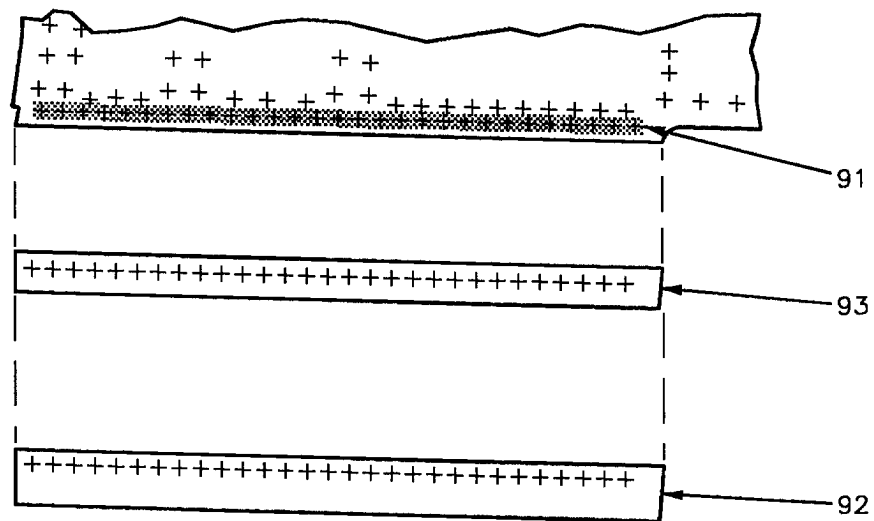


Figure 6. Cover (Door 79) Replacement (Sheet 1)



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Figure 6. Cover (Door 79) Replacement (Sheet 2)


























IDX NO.	EFT		Nomenclature	Part Number
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2			Plate Nut Shim	F49249E5-6 74A110866-2031
3			Plate Nut	F49249E5-6
4			Gang Channel Rivet	G18421JL5-5-10 RV1241-4-14
5			Gang Channel	G18421JL5-5-12
6			Plate Nut	F49249E5-5
7			Gang Channel Shim	G18421JL6-5-13 4M49L5PM 13-4
8			Gang Channel	G18421JL4-5-16
9			Plate Nut Spacer	F49249E5-4 74A110866-3211
10			Gang Channel	G18421JL2-5-10
11			Plate Nut Shim	F49249E5-6 NAS463XDD516
12			Gang Channel Shim	G18421JL6-5-10 4M49A5DL-10-3
13			Gang Channel Shim	G1842JL5-5-13 74A110866-2001
14			Gang Channel	G1842JL3-5-11
15			Gang Channel Spacer	G18421JL2-4-9 74A110866-2983
16			Gang Channel	G18421JL4-4-12
17			Gang Channel	G18421JL4-4-11
18			Plate Nut	F49249E4-4
19			Gang Channel	G18421JL6-4-8
20			Plate Nut	F50403-4-6
21			Plate Nut	F49251E5-5
22			Plate Nut Spacer	F49249E5-6 4M30D516-125
23			Plate Nut	F49249E6-2
24			Plate Nut Spacer	F49249E6-1 4M30D616-125

Figure 6. Cover (Door 79) Replacement (Sheet 3)























IDX NO.	EFT		Nomenclature	Part Number
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26	 	  	Plate Nut Shim Gang Channel Shim Spacer	F49249E5-2 74A110866-2033 G18421JL6-5-9 4M49A4DM9-3 74A110866-364-1
27			Plate Nut Spacer Spacer	F50403-5-4 4M30C516064 74A110866-2017
28			Plate Nut Spacer	F49249E6-2 74A110866-2015
29			Plate Nut Spacer Spacer	F50403-6-2 74A110866-2017 4M30C616125
30			Plate Nut Shim	F50403-6-7 24A110866-3333
31			Gang Channel	G18421JL3-4-9
32			Plate Nut	F49249E4-2
33			Gang Channel	3M464N10A11-3
34			Gang Channel	3M465N11A2F2
35			Plate Nut	F49251E4-3
36			Gang Channel	G18421JL3-4-9
37			Gang Channel	G18421JL2-5-14
38			Plate Nut	F49249E4-3
39			Plate Nut Shim	F50403-5-2 4M30C516064
40			Gang Channel	G18421JL2-5-12
41			Gang Channel	G18421JL2-5-13
42			Plate Nut Spacer	F49249E5-1 74A110866-3617, -3618
43			Plate Nut Spacer Spacer	F50403-5-2 4M30C516032 74A110866-2333
44		 	Gang Channel	G18421JL2-5-12
45			Gang Channel	G18421JL1-5-9

Figure 6. Cover (Door 79) Replacement (Sheet 4)























IDX NO.	EFT		Nomenclature	Part Number
46			Gang Channel	G18421JL1-5-10
47			Gang Channel Shim	G18421JL5-5-10 4M49A5PM102
48			Plate Nut Spacer	F50403-5-4 4M30C516064
49 L R			Plate Nut Spacer Spacer Spacer	F50403-5-4 74A110866-3583 74A110866-3584 4M30C516064
50 L R			Plate Nut Spacer Spacer	F49249E5-4 74A110866-3585 74A110866-3586
51			Gang Channel	G18421JL3-5-13
52		 	Gang Channel	G18421JL2-4-11
53			Plate Nut Spacer Spacer	F50403-5-6 4M30C516-064 4M30C516-125
54			Gang Channel	G18421JL3-5-12
55		 	Gang Channel	G18421JL2-4-11
56			Plate Nut Spacer	F50403-5-6 4M30C516-125
57			Plate Nut	F50403-5-2
58			Plate Nut Spacer Spacer	F49249E5-1 74A110866-2019 74A110866-3593
59			Gang Channel	G18421JL4-4-10
60			Plate Nut	F50403-4-2
61			Plate Nut Spacer	F50340-5-2 4M30C516-125
62			Plate Nut Spacer Spacer	F50403-5-6 74A110866-2017 4M30C516-125
63			Gang Channel	G18421JL2-4-9
64			Gang Channel	G18421JL2-4-12
65			Plate Nut	F49251E4-1

Figure 6. Cover (Door 79) Replacement (Sheet 5)












IDX NO.	EFT		Nomenclature	Part Number
66		 	Plate Nut	F49251E5-4
67		 	Plate Nut Shim Shim	F50403-5-6 4M30C516-032 4M30C516-125
68			Gang Channel	G18421JL3-4-12
69			Plate Nut	F49251E4-3
70			Gang Channel Spacer	G18421JL2-4-14 74A110866-3327
71			Gang Channel Spacer	G18421JL3-4-13 74A110866-3323
72			Gang Channel Shim	G18421JL3-4-12 74A110866-3325
73			Plate Nut	F49249E5-3
74			Gang Channel Spacer	G18421J15-5-11 74A110866-2947
75			Plate Nut Shim	F49251E4-2 NAS463YDD416
76			Gang Channel Shim	G18421JL3-4-8 74A110866-3329
77			Plate Nut	F49249E5-3
78 L R			Gang Channel Spacer Spacer	G18421JL5-5-10 74A110866-2023 74A110866-2024
79			Gang Channel	G18421JL3-4-14
80			Gang Channel Shim Shim	G18421JL3-4-8 74A110866-3331 74A110866-3329
81			Plate Nut	F49251E5-4
82 L R			Gang Channel Shim Shim	G18421JL4-5-10 74A110866-2023 74A110866-2024
83			Plate Nut	F492493-5-4
84		 	Plate Nut Shim	F49249E5-2 4M30D516-125
85			Gang Channel Spacer	G18421JL1-4-14 74A110866-2949

Figure 6. Cover (Door 79) Replacement (Sheet 6)



























IDX NO.	EFT		Nomenclature	Part Number
86			Gang Channel Spacer	G18421JL3-4-9 74A110866-3337
87			Gang Channel Spacer	G18421JL3-4-10 74A110866-3339
88			Gang Channel Spacer	G1842JL3-4-10 74A110866-3341
89	 	 	Plate Nut Shim Gang Channel Shim Spacer	F49249E5-2 74A110866-2033 G18421JL6-5-9 4M49A4DM93 74A110866-3641
90			Plate Nut	F49249E5-4
91			Rivet	CRS902B4-6
92			Seal	74A110948-2007, -2008
93			Shim	74A110866-3611
94			Gang Channel	3M465N10A2-4
95			Gang Channel	3M465N12A2-4
96			Gang Channel	3M464N9A4-3
97			Gang Channel Spacer	3M464N9A3-2 74A110866-3335
98			Gang Channel	3M464N9A6-3
99			Gang Channel	3M464N10A7-4
100			Gang Channel	3M464N9A10-3
101			Plate Nut Spacer	ST3M443-5A6 4M30D516-064
102			Plate Nut	ST3M443-5A3
103			Gage Channel	3M464N9A3-2
104			Gage Channel	3M465N12A2-3
105			Plate Nut Spacer	ST3M721C5M2 4M30C516-064
106			Gang Channel	3M465N12A3-3
107			Plate Nut	ST3M721C5M4
LEGEND				
 Hole diameter is 0.3750 +0.0030 -0.000.				
 Hole diameter is 0.3125 +0.0030 -0.000.				
 Hole diameter is 0.2500 +0.0030 -0.000.				

Figure 6. Cover (Door 79) Replacement (Sheet 7)

IDX NO.	EFT		Nomenclature	Part Number
4			Two required.	
5			161353 thru 161528.	
6			161702 and Up.	
7			Three required.	
8			Five required.	
9			161353 thru 161356.	
10			161357 and Up.	

Figure 6. Cover (Door 79) Replacement (Sheet 8)

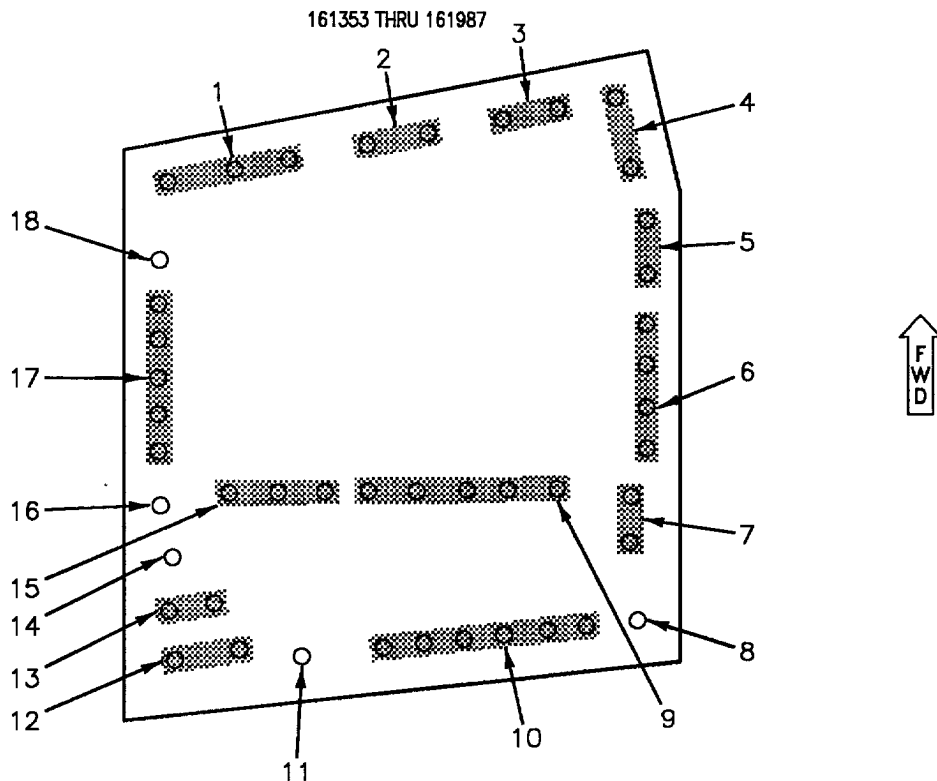
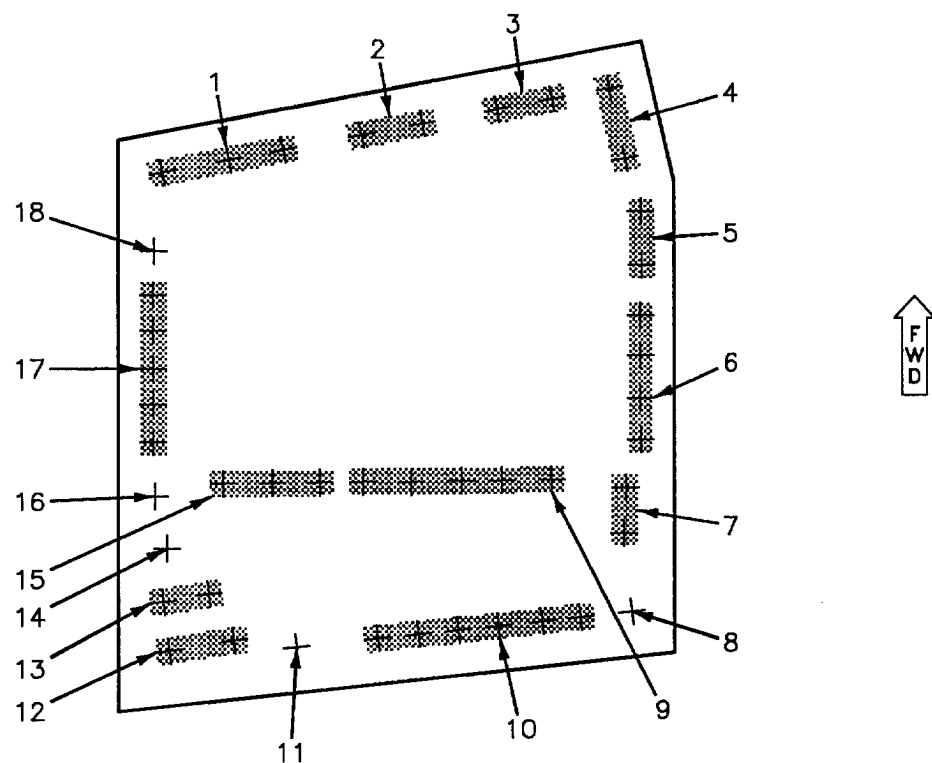


Figure 7. Cover (Door 82) Replacement (Sheet 1)

IDX NO.	EFT		Nomenclature	Part Number
1	<div>1</div> <div>15</div>	<div>9</div> <div>16</div>	Gang Channel Shim Rivet Rivet Gang Channel Shim Shim	G50344-7-1-12 4M49A6D12-3 NAS1200-4-13 NAS1200-4-14 74B110051-2015 4M49A6D12-3 74A110866-3261
2	<div>10</div>	<div>2</div>	Gang Channel Shim	G18421JL1-5-12 74A110866-2569
3	<div>10</div>	<div>2</div>	Gang Channel	G18421JL4-2-11
4	<div>11</div>	<div>3</div>	Plate Nut Shim	F49249E6-1 NAS463X-D616H
5	<div>10</div>	<div>2</div>	Gang Channel	G18421JL6-2-10
6	<div>12</div>	<div>4</div>	Gang Channel Shim	G18421JL4-4-8 4M49A4DM8-4
7	<div>10</div>	<div>2</div>	Gang Channel Shim	G18421JL4-2-9 74A110866-3317
8	<div>10</div>	<div>2</div>	Plate Nut	F49249E5-6
9	<div>12</div>	<div>4</div>	Gang Channel Shim Spacer	G18421JL4-5-9 4M49A4D9-5 74A110866-3303
10	<div>12</div>	<div>4</div>	Gang Channel Shim	3M464N8A6-6 4M49A4D8-6
11	<div>11</div>	<div>3</div> <div>6</div>	Plate Nut Shim Rivet	F49249E6-1 4M30D616-125 AF2041-4-14
12	<div>11</div>	<div>3</div> <div>5</div> <div>8</div>	Gang Channel Shim Shim	G50344-6-2-12 4M49F6D12-2 4M49F6DL12-2
13	<div>10</div>	<div>2</div>	Gang Channel	G18421JL5-2-9

Figure 7. Cover (Door 82) Replacement (Sheet 2)

IDX NO.	EFT		Nomenclature	Part Number
14L L L L R R R R		<div>2</div> <div>10</div> <div>13</div> <div>14</div> <div>2</div> <div>10</div> <div>13</div> <div>14</div>	Plate Nut Plate Nut Rivet Rivet Plate Nut Plate Nut Rivet Rivet	F49249E5-5 F49249E4-4 RV1241-4-12 NAS1200-3-12 F49249E5-5 F49249E4-4 RV1241-4-11 NAS1200-3-11
15	<div>12</div>	<div>4</div>	Gang Channel Shim Spacer	G18421JL4-3-9 4M49A4D9-3 74A110866-3303
16L L R R	<div>12</div> <div>12</div>	<div>4</div> <div>4</div>	Plate Nut Rivet Plate Nut Rivet	F50403-4-4 NAS1200-3-12 F49249E4-4 NAS1200-3-11
17	<div>12</div>	<div>4</div>	Gang Channel Shim Rivet	3M464N7A5-6 4M49A4DM7-5 NAS1200-3-6
18	<div>11</div>	<div>3</div>	Plate Nut Shim Shim Rivet	E49249E6-1 4M30D616-125 74A110866-3319 NAS1200-4-9
LEGEND <div>1</div> 161353 thru 163146. <div>2</div> Hole diameter is 0.3125 +0.0030 -0.0000, 161353 thru 161987. <div>3</div> Hole diameter is 0.3750 +0.0030 -0.0000, 161353 thru 161987. <div>4</div> Hole diameter is 0.2500 +0.0030 -0.0000, 161353 thru 161987. <div>5</div> Two required. <div>6</div> Four required. <div>7</div> Three required. <div>8</div> One required. <div>9</div> Hole diameter is 0.452 +0.008 -0.000, 162394 and Up. <div>10</div> Hole diameter is 0.322 +0.007 -0.000, 162394 and Up. <div>11</div> Hole diameter is 0.385 +0.008 -0.000, 162394 and Up. <div>12</div> Hole diameter is 0.255 +0.007 -0.000, 162394 and Up. <div>13</div> 161353 thru 161987. <div>14</div> 162394 and Up. <div>15</div> 163147 and Up. <div>16</div> Hole diameter is 0.452 +0.008 -0.000.				

Figure 7. Cover (Door 82) Replacement (Sheet 3)

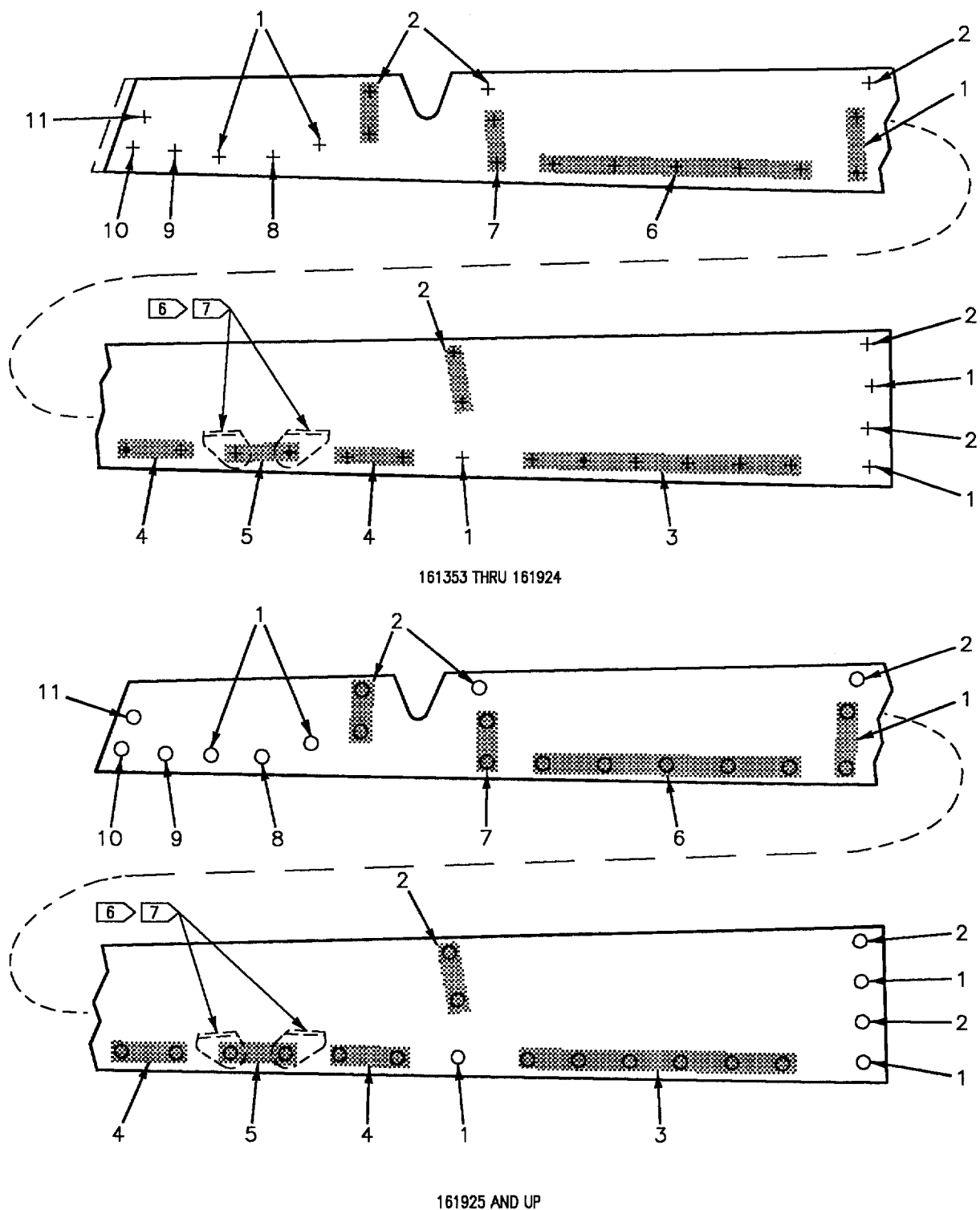


Figure 8. Seal (Door 191) Replacement (Sheet 1)


























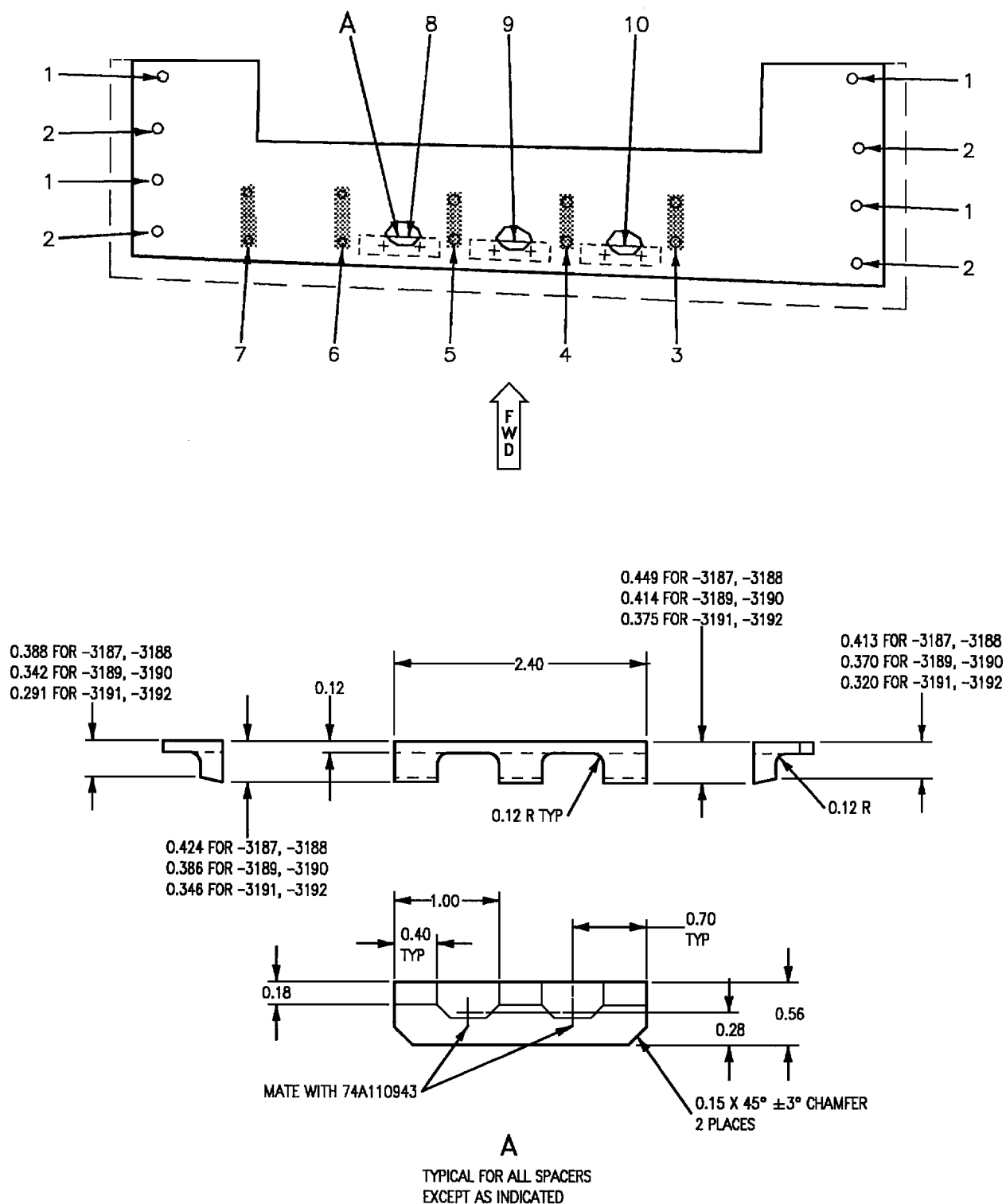
IDX NO.	EFT		Nomenclature	Part Number
1			Plate Nut	F50340-4-2
2			Plate Nut	F50339-4-2
3			Plate Nut Shim Spacer	F50340-4-2 74A110866-3207 74A110866-3173
4			Plate Nut Shim Spacer	F50340-4-2 74A110866-3175 74A110866-3177
5			Plate Nut Shim Spacer Bracket	F50339-4-2 74A110866-3175 74A110866-3177 74A110656-2095, -2096
6			Plate Nut Shim Spacer	F50340-4-2 74A110866-3181 74A110866-3179
7			Gang Channel	G51061-4-2-12-2
8			Plate Nut Shim Spacer	F50340-4-2 74A110866-3185 74A110866-3183
9		  	Plate Nut Retainer Spacer	F50340-4-2 74A110976-2031 74A110866-3203
10		  	Plate Nut Shim Spacer Spacer	F50339-4-2 74A110866-3205 74A110866-3193 74A110866-3745
11		  	Plate Nut Spacer Spacer	F50340-4-2 74A110866-3193 74A110866-3745
<p style="text-align: center;">LEGEND</p> <p> Hole diameter is 0.255 +0.007 -0.000.</p> <p> 161353 thru 162400.</p> <p> 162401 and Up.</p> <p> 161353 thru 161528.</p> <p> 161702 and Up.</p> <p> 74A110656-2095 left side; 74A110656-2096 right side on seal (Door 191L).</p> <p> 74A110656-2096 left side; 74A110656-2095 right side on seal (Door 191R).</p>				

Figure 8. Seal (Door 191) Replacement (Sheet 2)



00500901

Figure 9. Seal (Door 192) Replacement (Sheet 1)



















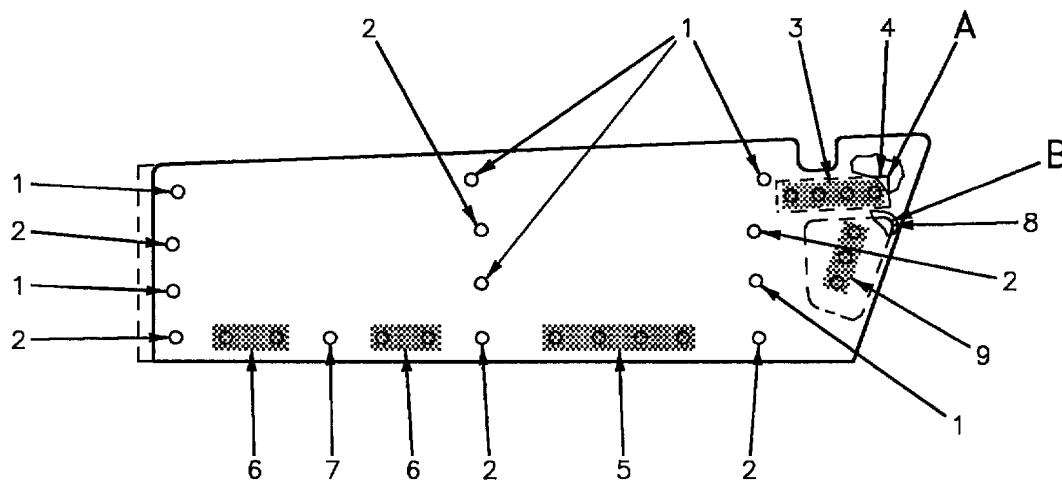
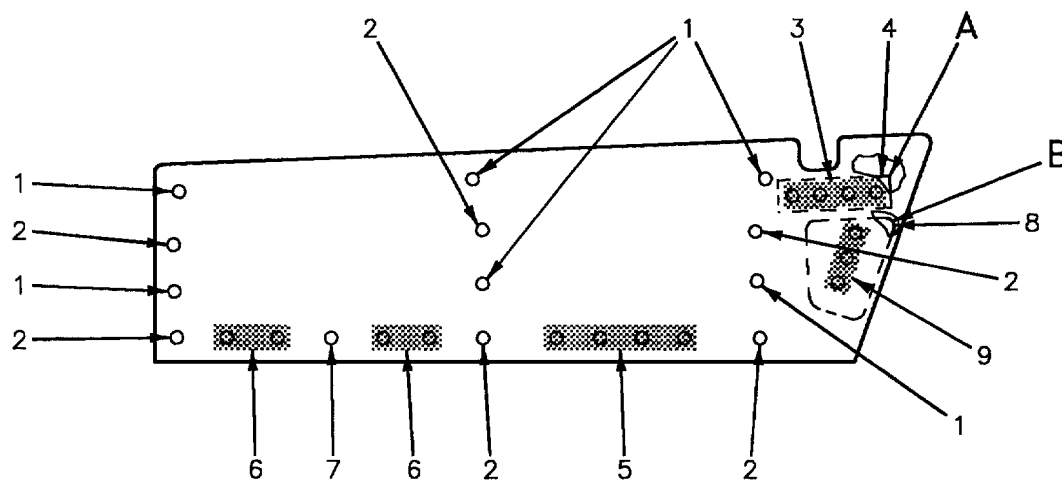
IDX NO.	EFT		Nomenclature	Part Number
1			Plate Nut	F50339-4-2
2			Plate Nut	F50340-4-2
3		 	Gang Channel Shim Spacer Spacer Bracket	G51061-4-10-2 74A110866-2681 74A110925-2011 74A110925-2013 74A110925-2037
4			Gang Channel Shim Spacer Spacer Bracket	G51061-4-10-2 74A110866-2681 74A110925-2011 74A110925-2015 74A110925-2031
5		 	Gang Channel Shim Spacer Spacer Bracket	G51061-4-10-2 74A110866-2681 74A110925-2011 74A110925-2015 74A110925-2033
6		 	Gang Channel Shim Spacer Spacer Bracket	G12094J3-11-2 74A110866-3273 74A110925-2039 74A110925-2013 74A110925-2035
7		 	Gang Channel Shim Bracket	G12094J3-11-2 74A110866-3279 74A110925-2043
8			Spacer Rivet	74A110866-3191, -3192 NAS1399C4A5
9			Spacer Rivet	74A110866-3189, -3190 NAS1399C4A5
10			Spacer Rivet	74A110866-3187, -3188 NAS1399C4A5
<p style="text-align: center;">LEGEND</p> <p> Hole diameter is 0.255 +0.007 -0.000.</p> <p> Shim is bonded to bracket with MIL-S-8802, Type II adhesive.</p> <p> Hole diameter is 0.195 +0.007 -0.000.</p> <p> Two required.</p>				

Figure 9. Seal (Door 192) Replacement (Sheet 2)

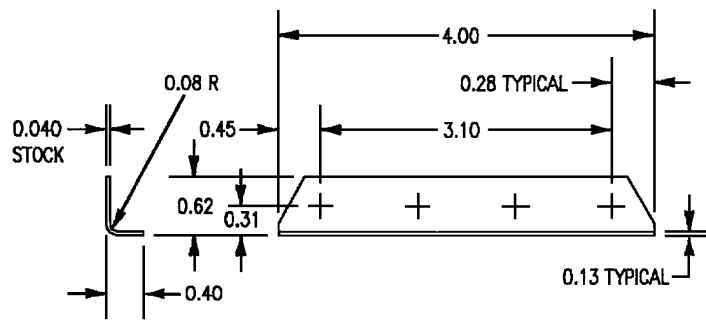


161353 THRU 161924



161925 AND UP

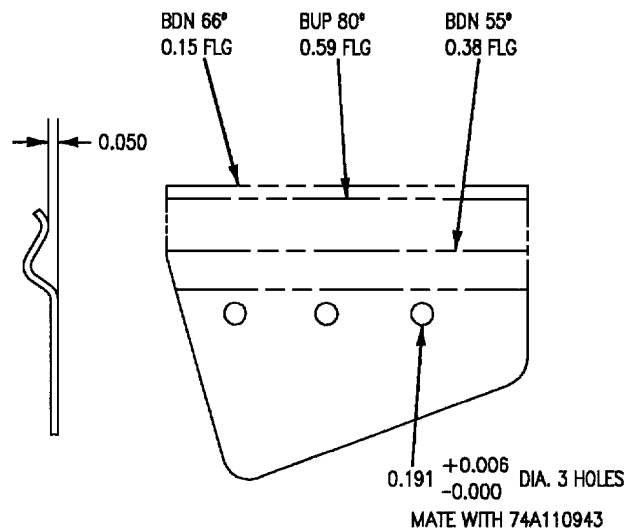
Figure 10. Seal (Door 193) Replacement (Sheet 1)



74A110943-2259

MATERIAL: 6AL-4V TI MIL-T-9046 TY III
COMP C ANNEALED

A



74A110925-2041 SHOWN

74A110925-2042 OPPOSITE

MATERIAL: 0.050 17-7 PH COND A
BR 0.13

B

Figure 10. Seal (Door 193) Replacement (Sheet 2)











IDX NO.	EFT		Nomenclature	Part Number
1			Plate Nut	F50339-4-2
2			Plate Nut	F50340-4-2
3			Rivet	CSR902B5-6
4			Stiffener	74A110943-2259
5			Plate Nut Shim Spacer	F50340-4-2 74A110866-3167 74A110866-3165
6			Plate Nut Shim Spacer	F50340-4-2 74A110866-3171 74A110866-3169
7			Plate Nut Shim Spacer	F50339-4-2 74A110866-3171 74A110866-3169
8			Clip	74A110925-2041, -2042
9			Pin Collar	HLT313DL-6-4 HL570-6MC
<p style="text-align: center;">LEGEND</p> <p> Hole diameter is 0.2550 +0.0070 -0.0000.</p> <p> 161520 and Up.</p> <p> Hole diameter is 0.1900 +0.0030 -0.0000.</p>				

Figure 10. Seal (Door 193) Replacement (Sheet 3)

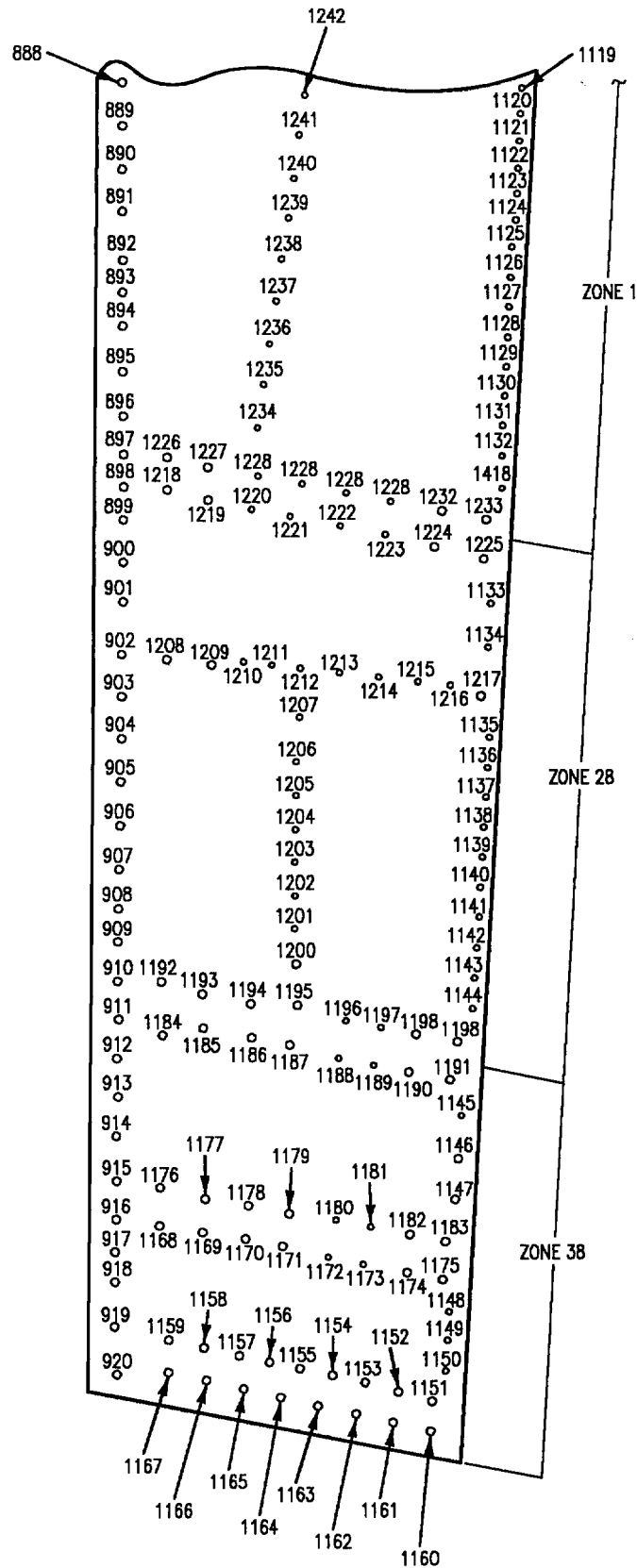


Figure 11. Cover (Door 79) Hole Numbers (Sheet 1)

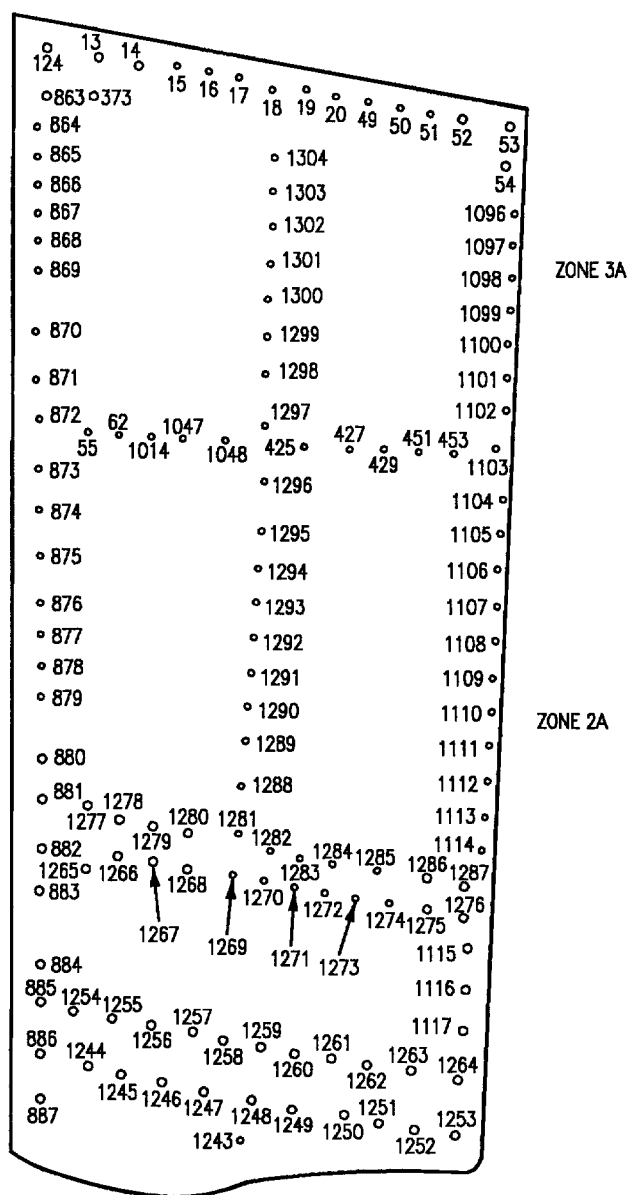


Figure 11. Cover (Door 79) Hole Numbers (Sheet 2)

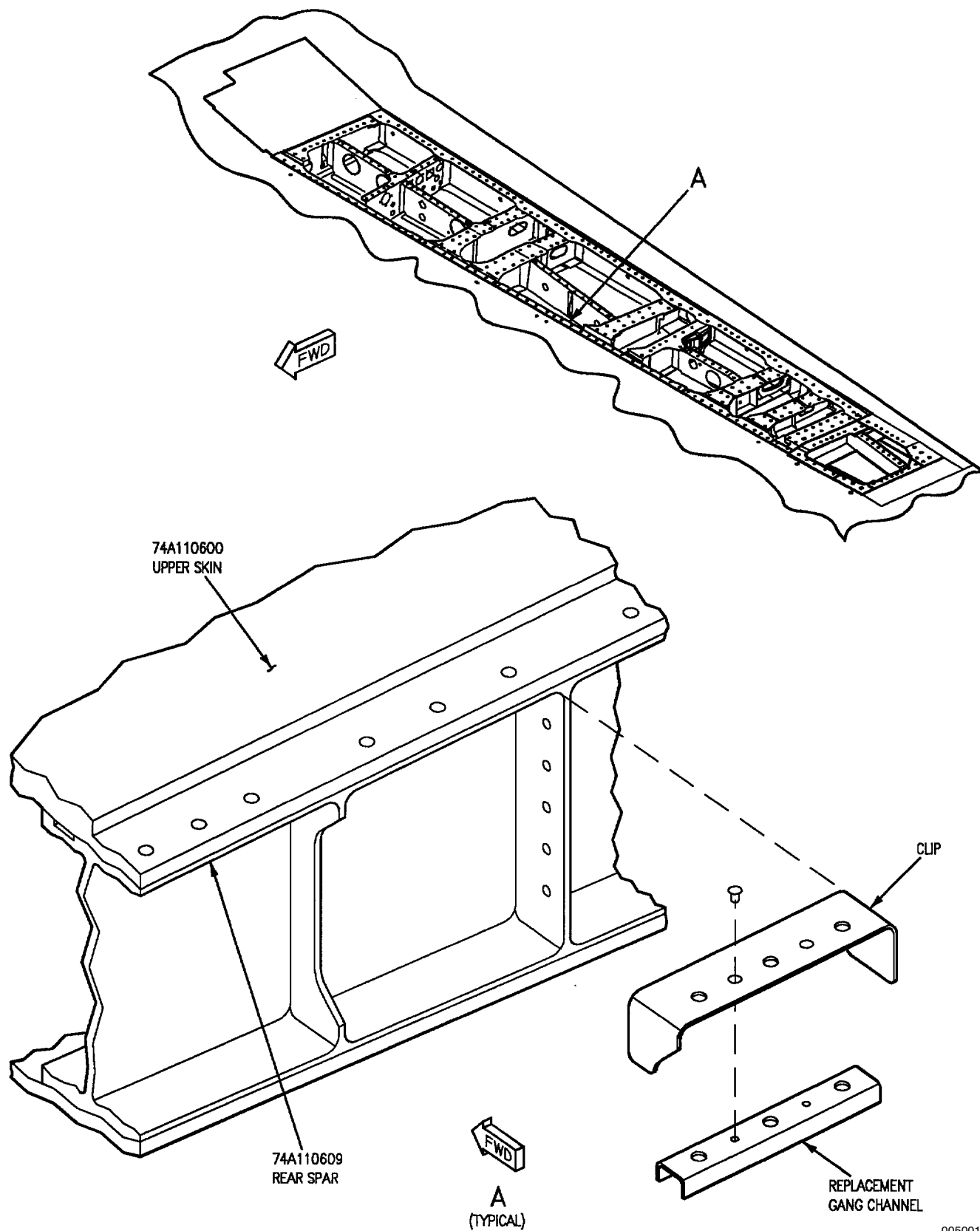


Figure 12. Gang Channel and Plate Nut Replacement

ORGANIZATIONAL AND DEPOT MAINTENANCE

STRUCTURE REPAIR

INNER WING EXTERNAL METAL DOORS, UPPER

Reference Material

Aircraft Corrosion Control	A1-F18AC-SRM-500
Form In Place Sealing	WP010 00
Inner and Outer Wing Finish System and Markings	WP027 00
Line Maintenance Access Doors	A1-F18AC-LMM-010
Structure Illustrated Parts Breakdown - Wing	A1-F18AC-SRM-410
Flap, Wing Leading Edge - Inbd, Of	FIG 012 00
Structure Assy - Wing, Inner	FIG 013 00
Structure Repair, General Information	A1-F18AC-SRM-200
Introduction	WP002 00
Locating Blind Holes and Trim Lines	WP004 03
Gang Channel and Plate Nut Identification and Repair	WP004 05
Fasteners	WP004 06
Oversize Fasteners	WP004 07
Cold Working Fastener Holes	WP004 10
Structure Repair, Typical Repair	A1-F18AC-SRM-250
Aluminum Sheet, Free of Structure and Land Areas	WP031 00
Aluminum Sheet Edge Repair	WP034 00
Aluminum Sheet Repairs Across Structure and Lands	WP036 00
Blending	WP038 00
Aircraft Weapons Systems Cleaning and Corrosion Control	NAVAIR 01-1A-509

Alphabetical Index

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Negligible Damage	2
Repairable Damage	2
Repairs	2
Door 119 Damage Repair	4
Permanent Repairs	2
Replacements	4
Seal (Door 111)	4
Seal (Door 115)	4
Seal (Door 119)	5
Skin 74A110930 or (Door 19)	4
Rework of Seal (Door 111, 115 and 119)	4

Record of Applicable Technical Directives

None

Support Equipment Required

None

Materials Required

None

1. **DAMAGE EVALUATION.** See figures 1 and 2.

2. Damage is classified as negligible and repairable. The types of materials used are shown on figure 1. Repair zones are shown on figure 2. Allowable damage limits within repair zones are listed in tables 1 and 2. Locating and determining size of damage by visual method is organizational maintenance. Repair to aluminum sheet across structure or land areas, 0.063 inch or thicker in zone B2 is depot maintenance. Damage not listed or exceeding the limits listed below requires a depot engineering disposition.

3. **NEGLECTIBLE DAMAGE.** Negligible damage is damage that may be allowed to exist as is. However, preventive maintenance, for temporary corrosion arrestment, should be done to scratches (NAVAIR 01-1A-509). The types and limits of damage are listed below and in table 1. The figure and index numbers in table 1 coincide with the figure and index numbers in the material index.

a. Scratches are not allowed within one diameter from the edge of any hole.

b. Smooth dents only, effective diameter at least 20 times the depth.

4. **REPAIRABLE DAMAGE.** The types and limits of damage are listed below and in table 2. The figure and index numbers in table 2 coincide with figure and index numbers in the material index, figure 1.

NOTE

The limits in table 2 apply after blending the damage.

- a. Scratches.

(1) Any scratches within one diameter of any hole must be blended out. Minimum blend out is one diameter from edge of any hole.

(2) Scratches to be blended out with diameter, or width, at surface at least 20 times the depth.

b. Nicks, gouges, and corrosion to be blended out with diameter, or width, at surface at least 20 times the depth.

- c. Cracks. All cracks must be repaired.

- d. Holes.

(1) Damage in areas free of structure and lands must have edge of cleanup hole at least eight repair fastener diameters from any land, internal structure, or existing row of fasteners.

(2) Damage to lands, over structure, only one repair per land.

e. Dents exceeding limits in table 1 must be repaired.

5. REPAIRS.

6. Types of repairs are temporary, one-time flight, permanent, critical area, alternate, and typical. Repair type definitions are in structure repair terms (A1-F18AC-SRM-200, WP002 00).

WARNING

Installation of an overweight repair could cause failure of the doors, resulting in loss of life or injury. Engineering approval of repairs on doors is required.

7. PERMANENT REPAIRS.**8. Scratches, Nicks, Gouges, or Corrosion.**

Blend scratches, nicks, gouges, or corrosion (A1-F18AC-SRM-250, WP038 00). If, after blending, the damage limits of table 2 are exceeded, repair aluminum sheet. Refinish blended areas (A1-F18AC-SRM-500, WP027 00).

- a. Scratches - make crack or edge repairs.

b. Nicks, gouges, or corrosion - make hole or edge repair.

9. Cracks.

a. In repair zones A3 and B2, repair cracks free of structure or land areas in aluminum sheet (A1-F18AC-SRM-250, WP031 00).

(1) Rout out crack in repair zone A3 or completely cut out damage in the smallest diameter circle in repair zone B2.

(2) In repair zone A3, install a lap patch.

(3) In repair zone B2, install a type two flush or lap patch.

(4) Refinish repaired area (A1-F18AC-SRM-500, WP027 00).

b. In repair zones A2, A3, and B2, repair cracks across structure or land areas in aluminum sheet (A1-F18AC-SRM-250, WP036 00).

(1) Cut out damage.

NOTE

When making a repair in repair zone B2, to 0.063 inch or thicker material, all fasteners holes shall either be cold worked (A1-F18AC-SRM-200, WP004 10) or drilled to an interference fit (A1-F18AC-SRM-200, WP004 06 for standard fasteners or WP004 07 for oversize fasteners). Cold working or drilling interference fit holes is depot maintenance.

(2) In repair zones A2, A3, and B2, make repairs.

(a) Damage to Bay Requiring Repair Across Land; install flush or lap patch.

(b) Damage to Bay Requiring Repair Across Land and Edge of Part; install flush or lap patch.

(c) Damage to Land or Land and Bay; install flush or lap patch.

(3) Refinish repaired area (A1-F18AC-SRM-500, WP027 00).

10. Holes.

a. In repair zones A3 and B2, repair holes free of structure or land areas in aluminum sheet (A1-F18AC-SRM-250, WP031 00).

(1) Cut out damage.

(2) In repair zone A3, install a type one flush or lap patch.

(3) In repair zone B2, install a type two flush or lap patch.

(4) Refinish repaired area (A1-F18AC-SRM-500, WP027 00).

b. In repair zones A2, A3, and B2, repair holes across structure or land areas in aluminum sheet (A1-F18AC-SRM-250, WP036 00).

(1) Cut out damage.

NOTE

When making a repair in repair zone B2, to 0.063 inch or thicker material, all fasteners holes shall either be cold worked (A1-F18AC-SRM-200, WP004 10) or drilled to an interference fit (A1-F18AC-SRM-200, WP004 06 for standard fasteners or WP004 07 for oversize fasteners). Cold working or drilling interference fit holes is depot maintenance.

(2) In repair zones A2, A3, and B2, make repairs.

(a) Damage to Bay Requiring Repair Across Land; install flush or lap patch.

(b) Damage to Bay Requiring Repair Across Land and Edge of Part; install flush or lap patch.

(c) Damage to Land or Land and Bay; install flush or lap patch.

(3) Refinish repaired area (A1-F18AC-SRM-500, WP027 00).

11. **Edge.** In repair zones A2, A3, and B2, repair edge damage in aluminum sheet (A1-F18AC-SRM-250, WP034 00).

a. Cut out damage.

b. Select repair patch (A1-F18AC-SRM-250, WP034 00).

(1) Corner Damage to Lands.

(2) Corner Damage to Lands and Bays.

(3) Edge Damage to Lands.

(4) Edge Damage to Lands and Bays.

(5) Full Width Damage to End.

c. Refinish repaired area (A1-F18AC-SRM-500, WP027 00).

12. Dents.

a. In repair zones A3 and B2, repair dents free of structure or land areas in aluminum sheet (A1-F18AC-SRM-250, WP031 00).

(1) Cut out damage.

(2) In repair zone A3, install a type one flush or lap patch.

(3) In repair zone B2, install a type two flush or lap patch.

(4) Refinish repaired area (A1-F18AC-SRM-500, WP027 00).

b. In repair zones A2, A3, and B2, repair dents across structure or land areas in aluminum sheet (A1-F18AC-SRM-250, WP036 00).

(1) Cut out damage.

NOTE

When making a repair in repair zone B2, to 0.063 inch or thicker material, all fasteners holes shall either be cold worked (A1-F18AC-SRM-200, WP004 10) or drilled to an interference fit (A1-F18AC-SRM-200, WP004 06 for standard fasteners or WP004 07 for oversize fasteners). Cold working or drilling interference fit holes is depot maintenance.

(2) In repair zones A2, A3, and B2, make repairs.

(a) Damage to Bay Requiring Repair Across Land; install flush or lap patch.

(b) Damage to Bay Requiring Repair Across Land and Edge of Part; install flush or lap patch.

(c) Damage to Land or Land and Bay; install flush or lap patch.

(3) Refinish repaired area (A1-F18AC-SRM-500, WP027 00).

13. DOOR 119 DAMAGE REPAIR. See figure 5.

a. Remove door 119 (A1-F18AC-LMM-010).

b. Trim seal to dimensions, view A.

c. Blend any remaining damage per Permanent Repairs, this WP.

d. Refinish trimmed edge and blended area (A1-F18AC-SRM-500, WP027 00).

e. Install door 119 (A1-F18AC-LMM-010).

14. REWORK OF SEAL (DOOR 111, 115, AND 119). See figure 6.

a. Trim seal to allowable gap, view A.

b. Refinish trimmed edge (A1-F18AC-SRM-500, WP027 00).

15. REPLACEMENTS.

16. **SKIN 74A110930 OR (DOOR 19).** See figure 3. Skin is replaceable and requires trimming. For method of locating trim lines (A1-F18AC-SRM-200, WP004 03). Refinish trimmed edges (A1-F18AC-SRM-500, WP027 00). For form in place sealing (A1-F18AC-SRM-500, WP010 00). For replacement of gang channels (A1-F18AC-SRM-200, WP004 05). Fastener attaching hardware is shown on figure 3. For fasteners (A1-F18AC-SRM-410, FIG 013 00).

17. **SEAL (DOOR 111).** See figure 4. Seal is replaceable and requires trimming. For seal gap and mismatch see figure 5. Drilling is required for 161353 thru 161519. For method of locating trim lines and blind holes (A1-F18AC-SRM-200, WP004 03). Refinish trimmed edges (A1-F18AC-SRM-500, WP027 00). For form in place sealing (A1-F18AC-SRM-500, WP010 00). For repair of gang channel, replacement rivets attaching gang channel, and bonding with MIL-S-8802 sealing compound and EA9309A/B adhesive (A1-F18AC-SRM-200, WP004 05). Fastener attaching hardware is shown on figure 4. For fasteners (A1-F18AC-SRM-410, FIG 012 00).

18. **SEAL (DOOR 115).** See figure 4. Seal is replaceable and requires trimming. For seal gap and mismatch see figure 5. Drilling is required for 161353 thru 161736. For method of locating trim lines and

☐ 1 None allowed

Table 2. Repairable Damage Limits After Blending

Fig No Idx No	Nomen/Re- pair Zone	Thickness	Scratch Depth	Nick Gouges		Corrosion	
				Depth	Area	Depth	Area
Fit 1 (1)	Seal Zone A2	0.100	0.020	0.020	80%	0.020	80%
	Zone C2	Tapered 0.030 to 0.060	0.010	0.010	50%	0.010	50%
Fig 1 (2)	Skin Zone A3	0.040	0.008	0.007	100%	0.007	100%
Fig 1 (3)	Seal Zone B2	0.100	0.020	0.020	80%	0.020	80%
	Zone C2	Tapered 0.030 to 0.060	0.012	0.012	50%	0.012	50%
Fig 1 (4)	Seal Zone B2	Tapered 0.030 to 0.060	0.012	0.012	50%	.012	50%
	Zone B2	0.100	0.020	0.020	80%	0.020	80%

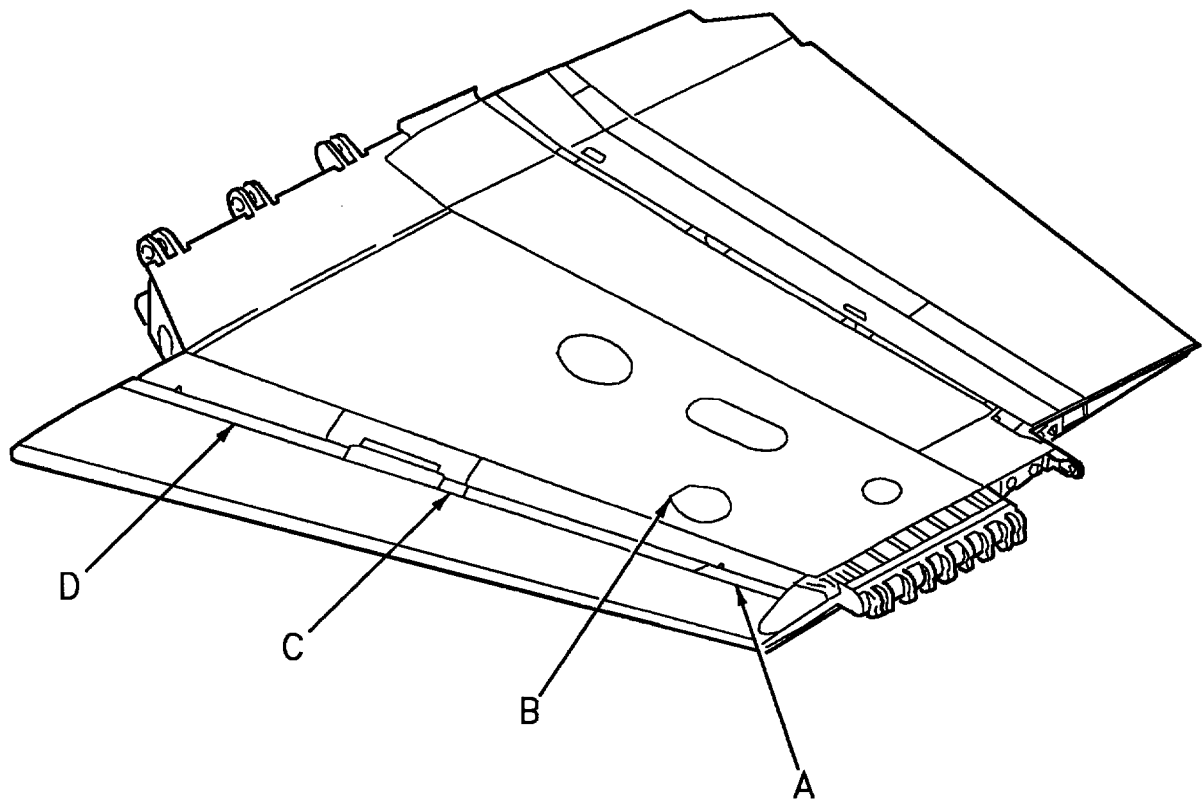


Figure 1. Material Index (Sheet 1)

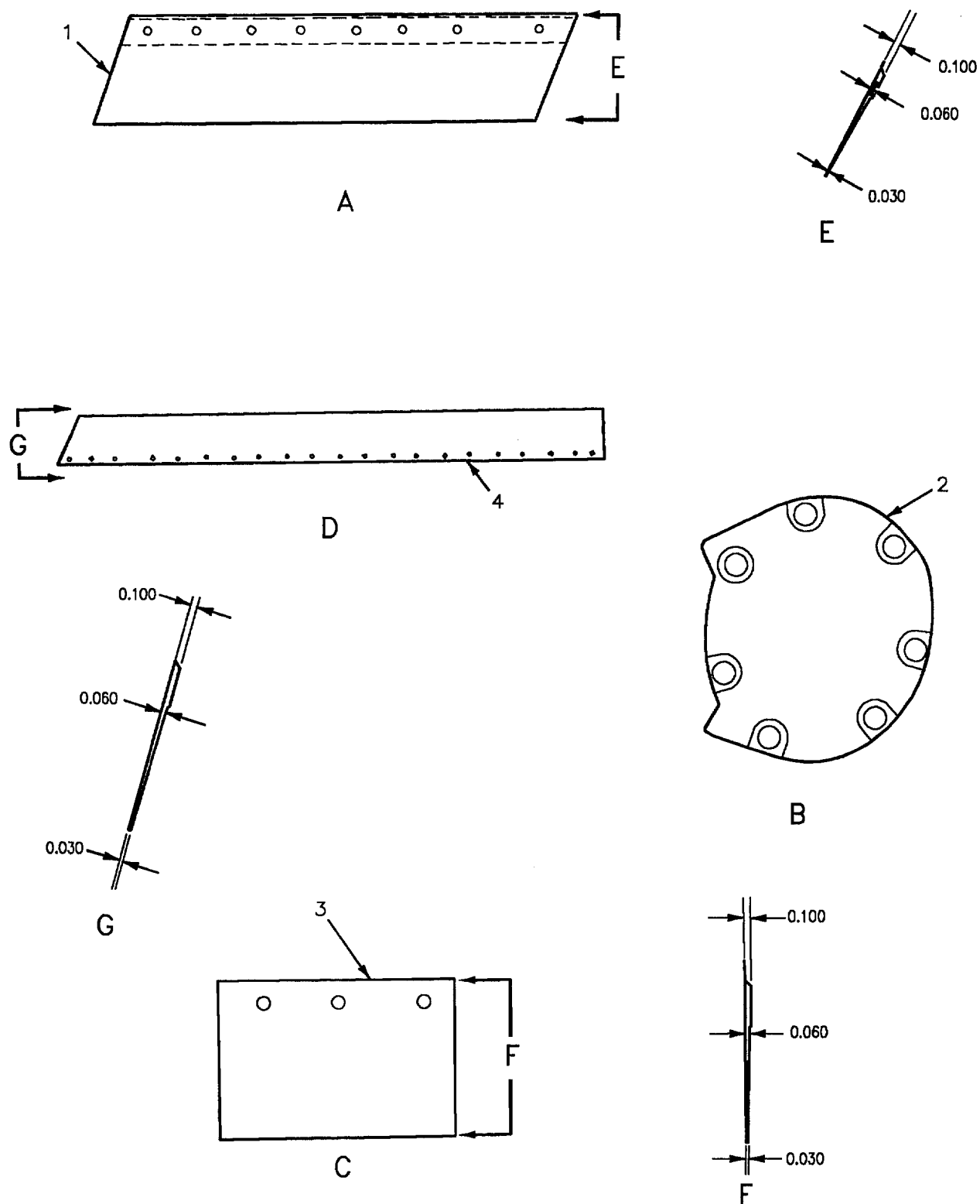


Figure 1. Material Index (Sheet 2)

IDX NO.	EFT	Nomenclature and Part No.	Description	Material
1	<div>4</div> <div>5</div> <div>6</div> <div>7</div>	Seal (Door 119) 74A190619-2005 74A190619-2006 74A190619-2007 74A190619-2008	0.100 Sheet	7075-T6 Alclad
2	<div>9</div>	Skin (Door 19) 74A110930-2001, -2002	0.040 Sheet	7075-T6 Alclad
3	<div>9</div> <div>8</div> <div>3</div>	Seal (Door 115) 74A190630-2003, -2004 74A190630-2005, -2006	0.100 Sheet	7075-T76 Alclad
4	<div>1</div> <div>2</div> <div>8</div>	Seal (Door 111) 74A190612-2005, -2006 74A190612-2007, -2008 74A190612-2009, -2010	0.100 Sheet	7075-T76 Alclad
LEGEND <div>1</div> 161353 thru 161519. <div>2</div> 161520 thru 161736. <div>3</div> 161737 and Up. <div>4</div> 161353 thru 161734. <div>5</div> 161353 thru 161733. <div>6</div> 161735 and Up. <div>7</div> 161734 and Up. <div>8</div> 161353 thru 161736. <div>9</div> 161353 thru 161724.				

Figure 1. Material Index (Sheet 3)

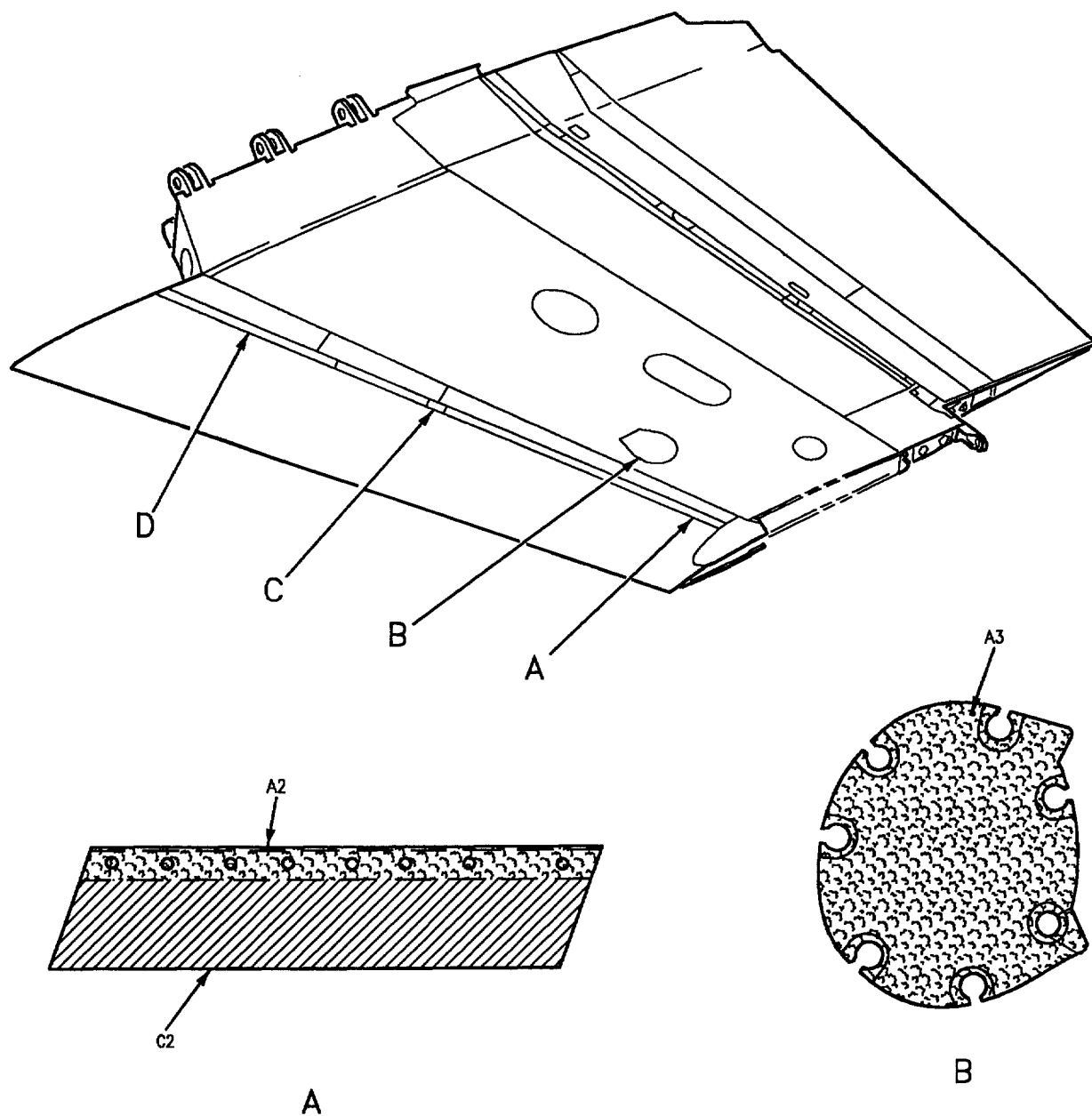


Figure 2. Repair Zones (Sheet 1)

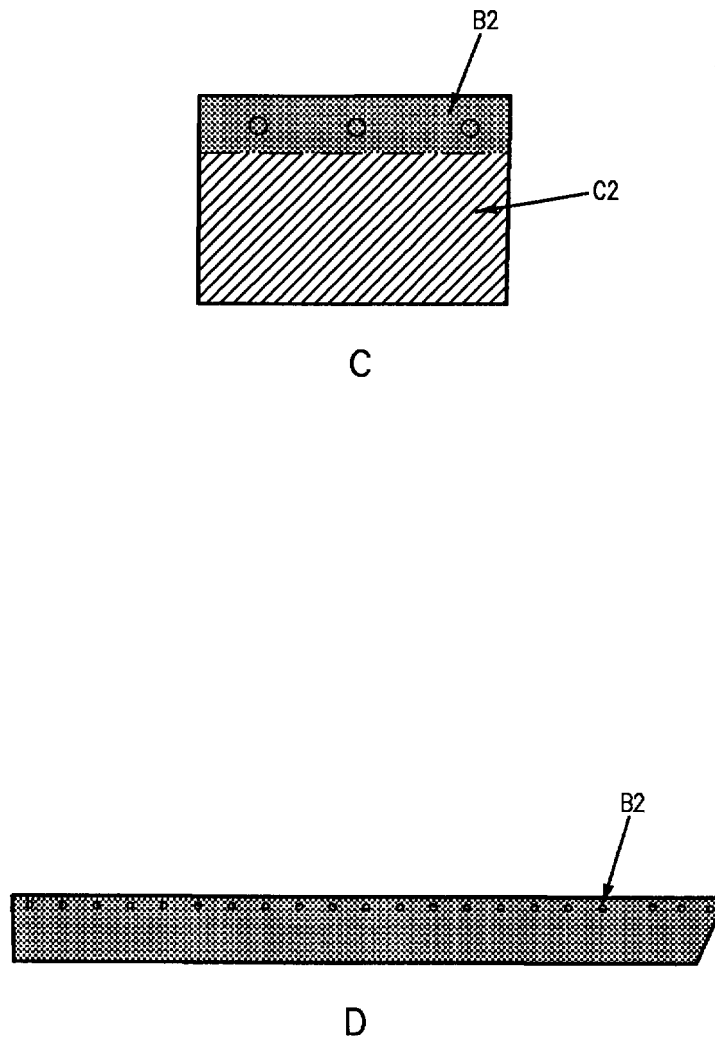
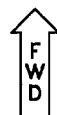
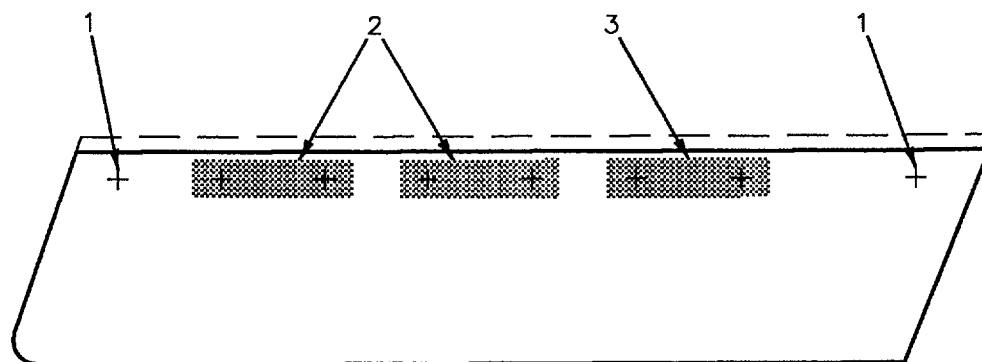
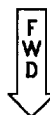
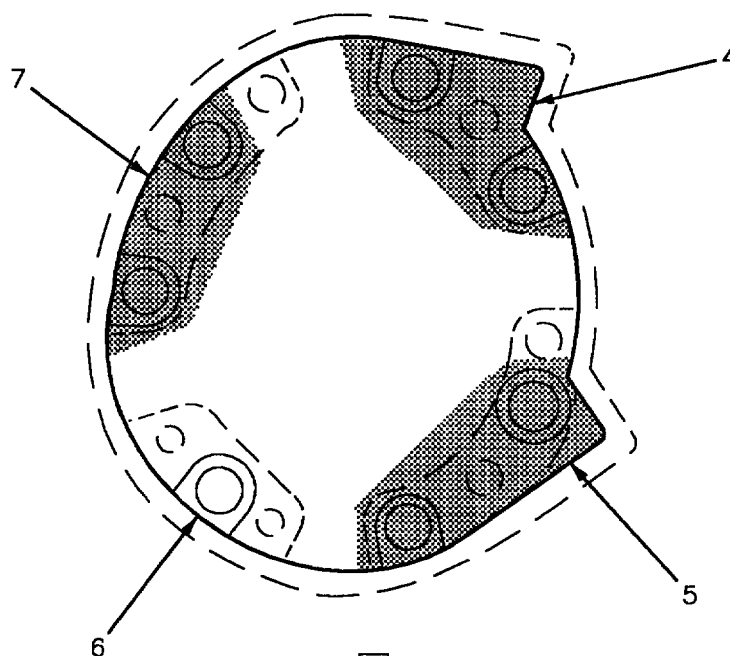


Figure 2. Repair Zones (Sheet 2)



DOOR 119



DOOR 19
74A110930



Figure 3. Seal (Door 119), Skin 74A110930, or (Door 19) Replacement (Sheet 1)

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

















IDX NO.	EFT		Nomenclature	Part Number
1			Plate Nut	F50340-4-1
2			Gang Channel	G51061-4-14
3			Gang Channel	G18421JL1-4-13
4			 Gang Channel  Spacer	RG18B5JLE-31 74A110866-2555
5			 Gang Channel Spacer	RG18B5JLE-24 74A110866-2553
6			 Gang Channel	RG185JLE-31
7			 Gang Channel Spacer	RG18B5JLE-31
<p style="text-align: center;">LEGEND</p> <p> Hole diameter is 0.2550 +0.0070 -0.0000.</p> <p> Hole diameter is 0.7030 +0.0080 -0.0010.</p> <p> Attached with MS20470AD4 rivets, length determined on installation.</p> <p> Attached by bonding with MIL-S-8802 and riveting.</p> <p> 161353 thru 161724.</p> <p> 161725 and Up.</p>				

Figure 3. Seal (Door 119), Skin 74A110930 or (Door 119) Replacement (Sheet 2)

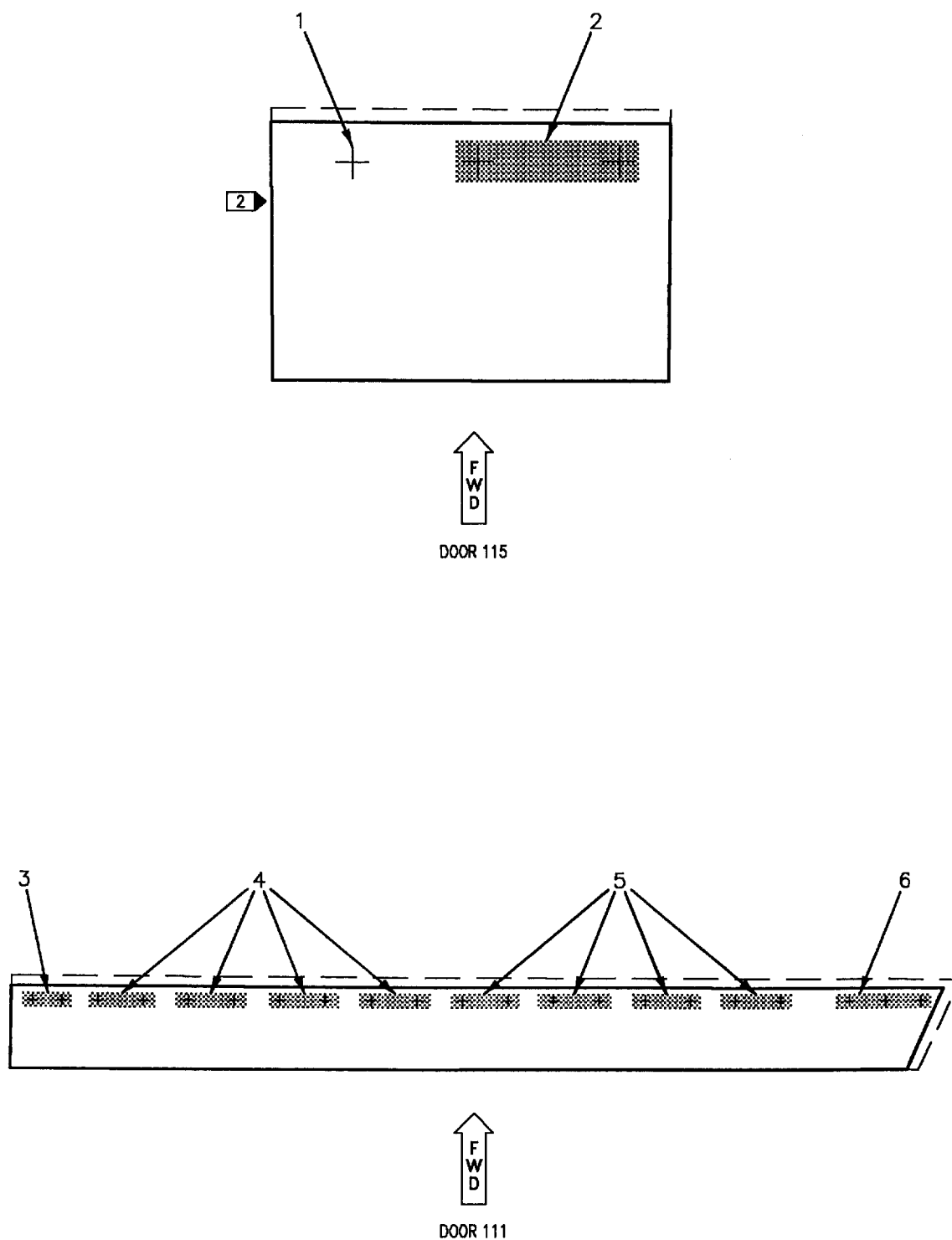


Figure 4. Seals (Door 115 and 111) Replacement (Sheet 1)

IDX NO.	EFT		Nomenclature	Part Number
1	<div>3</div> <div>4</div> <div>8</div>	<div>1</div> <div>1</div> <div>1</div>	Plate Nut <div>5</div> Plate Nut <div>5</div> Plate Nut	F50340-4-1 74A190002-2003 74A190003-2001
2	<div>3</div> <div>9</div>	<div>1</div> <div>1</div>	Gang Channel <div>7</div> Gang Channel	G51061-4-14 G51061-4-14
3	<div>3</div> <div>4</div>	<div>1</div> <div>1</div>	<div>6</div> Gang Channel <div>7</div> Gang Channel	G51061-4-8 G51061-4-8
4	<div>3</div> <div>4</div>	<div>1</div> <div>1</div>	<div>6</div> Gang Channel <div>5</div> Gang Channel	G51061-4-14 G51061-4-14
5		<div>1</div>	Gang Channel	G51061-4-14
6	<div>3</div> <div>10</div> <div>11</div>	<div>1</div> <div>1</div> <div>1</div>	Gang Channel Gang Channel Gang Channel	G51061-4-11 G51061-4-10 G51061-4-2-10
LEGEND <div>1</div> Hole diameter is 0.255 +0.007 -0.000. <div>2</div> Holes drilled full size 161737 and Up. <div>3</div> 161353 thru 161519. <div>4</div> 161520 thru 161746. <div>5</div> Attached by bonding with EA9309A1B and with BRFS5AD rivets, length determined on installation. <div>6</div> Attached by bonding with MIL-S-8802, riveting not permitted. <div>7</div> Attached by bonding with EA9309A/B and riveting. <div>8</div> 161747 and Up. <div>9</div> 161520 and Up. <div>10</div> 161520 thru 162868, 162898, 163092, 163105, 163112. <div>11</div> 162869 thru 162897, 162899 thru 162909, 163093 thru 163104, 163106 thru 163111, 163113 and Up.				

Figure 4. Seals (Door 115 and 111) Replacement (Sheet 2)

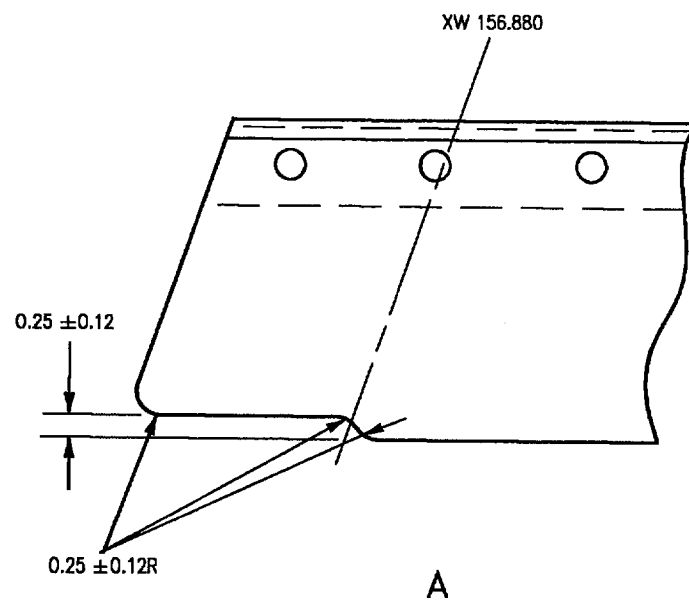
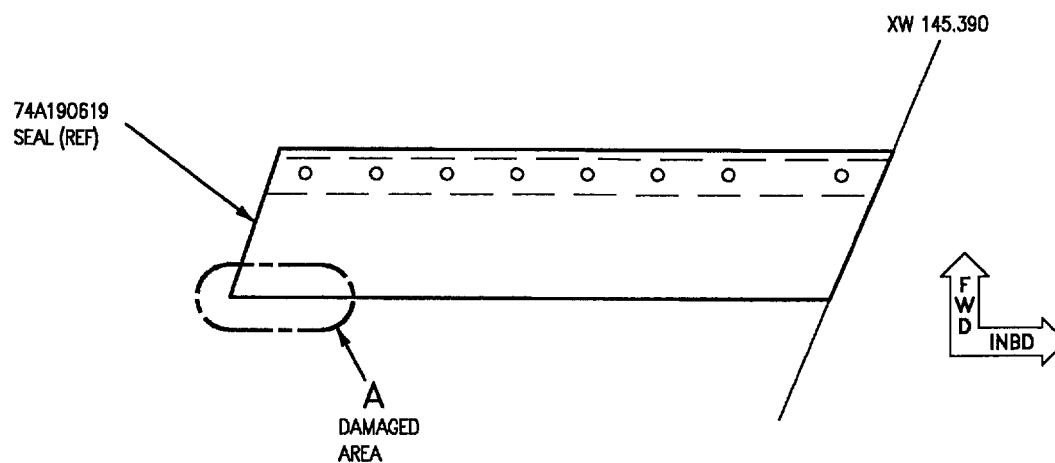


Figure 5. Seal (Door 119) Repair

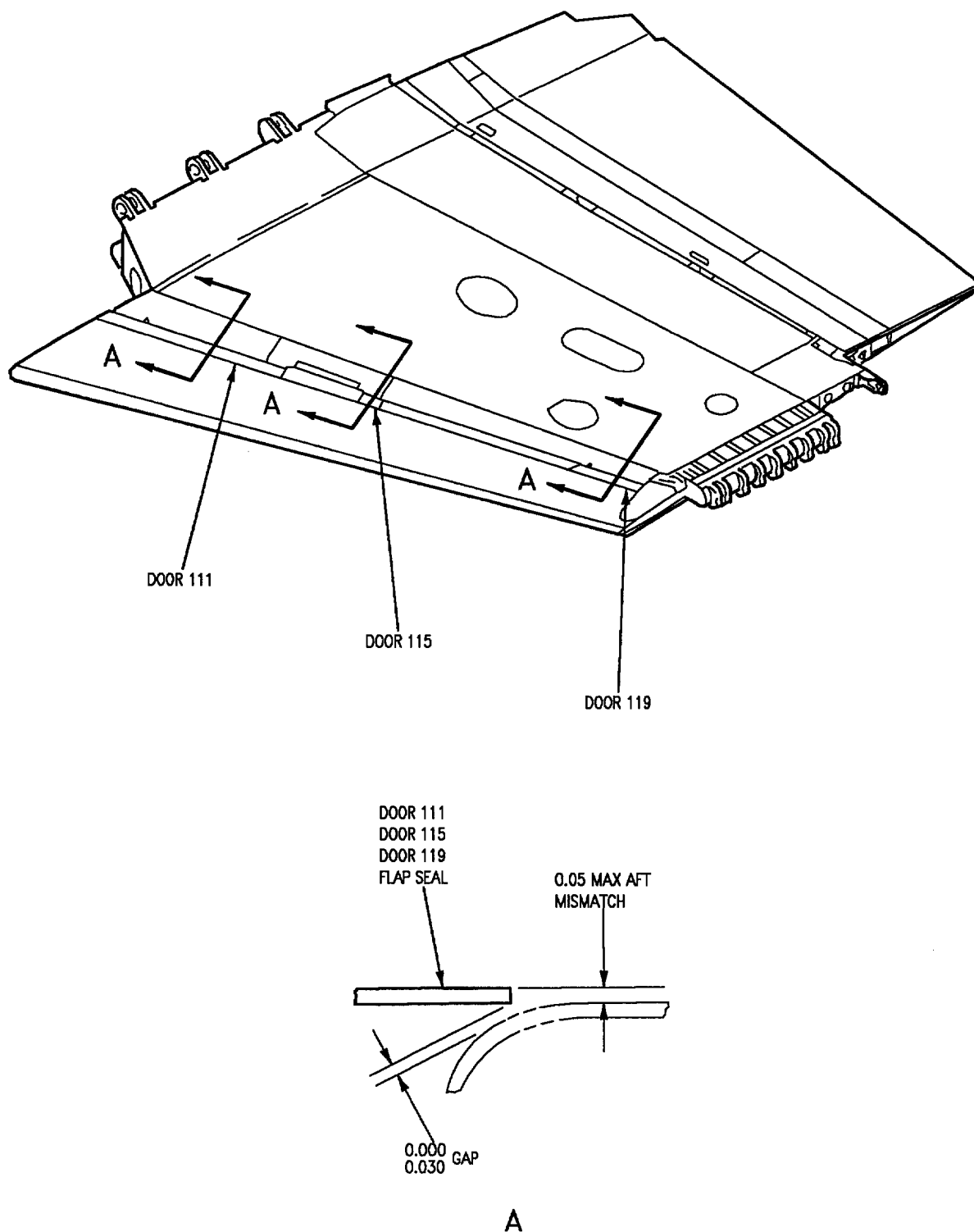


Figure 6. Seal (Door 111, 115 and 119) Gap and Mismatch

ORGANIZATIONAL AND INTERMEDIATE MAINTENANCE**STRUCTURE REPAIR****INNER WING EXTERNAL FIBERGLASS OR ARAMID DOORS 60, 61, 76, 77, AND 106**

Reference Material

Aircraft Corrosion Control	A1-F18AC-SRM-500
Inner and Outer Wing Finish System and Markings	WP027 00
Nondestructive Inspection	A1-F18AC-SRM-300
Pulse Echo, Longitudinal Wave Contact, Without Delay Line, For Composite Laminate Material	WP008 02
Structure Illustrated Parts Breakdown	A1-F18AC-SRM-410
Structure Assy - Wing, Inner	FIG 013 00
Cover, Access - Fuel No. 1 and No. 2, Installation of	FIG 014 00
Structure Repair, General Information	A1-F18AC-SRM-200
Gang Channel and Plate Nut Identification and Repair	WP004 05
Structure Repair, Typical Repair	A1-F18AC-SRM-250
Fiberglass or Aramid Assembly, Class I Damage Repair	WP039 00
Fiberglass or Aramid Assembly, Class II Damage Repair	WP040 00
Fiberglass or Aramid Assembly, Class III Damage Repair	WP041 00
Fiberglass or Aramid Assembly, Class IV Damage Repair	WP042 00
Fiberglass or Aramid Assembly, Class VI Damage Repair	WP044 00

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Skin Damage Without Penetration, Class III Damage	2
Skin Delamination Open to Edge of Part or at Fastener Holes, Class IV Damage	2
Skin Surface Damage, Class I Damage	2
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Replacement	3
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Cover (Door 61)	3
Cover (Door 76)	3
Cover (Door 77)	3
Cover (Door 106)	3

Record of Applicable Technical Directives

None

Support Equipment Required

None

Materials Required

None

1. DAMAGE EVALUATION. See figure 1.

2. Damage is classified as negligible and repairable. Locating and determining size of damage by visual method is organizational maintenance. Locating and determining size of damage by NDI method is intermediate maintenance. Damage not listed or exceeding limits below requires a depot engineering disposition.

3. NEGLIGIBLE DAMAGE. See figure 2. Negligible damage may be allowed to exist as is. Type and limits are:

a. Cuts, scratches, pits, erosion or abrasions that extend into or through any protective coating but do not penetrate the outer ply of the underlying laminate skin.

4. REPAIRABLE DAMAGE. See figure 3. Repairable damage is damage that can be permanently repaired with no adverse affect on structural integrity, flight characteristic, or safety of the aircraft. Any repairs not listed require engineering disposition. Repairs to doors 60 and 61 are not practical, however the screw and its retainer are replaceable.**5. Skin Surface Damage, Class I Damage.** See figure 3, section A. This class of damage does not require immediate repair but shall be repaired as soon as practical. Damage shall be monitored to make sure limits are not exceeded. Class I damage is damage which does not exceed the limits below.

a. Dents, scuffs, pits, scratches, erosion, or abrasions.

(1) Do not penetrate through the first ply.

(2) Are a maximum of 20 percent of surface area.

6. Fiber Damage Around Fastener Holes and Edge Damage, Class II Damage. See figure 3, section B. Class II damage is damage which does not exceed the limits below.

a. Broken or missing fibers at fastener hole not more than:

(1) 0.15 inches deep.

(2) 0.25 inches wide.

(3) 1.00 inch in length.

b. Chipped, broken, or crushed edge not extending:

(1) 0.12 inches into edge.

(2) 4.00 inches along edge.

7. Skin Damage Without Penetration, Class III Damage. See figure 3, section C. Determine size and location of delaminations (A1-F18AC-SRM-300, WP008 02). Class III damage is damage which does not exceed the limits below.

a. Cuts, scratches, scuffs, nicks, or gouges which:

(1) Do not penetrate through two plies.

(2) Can be enclosed in a 4.0 inch diameter circle.

(3) Distance between damages is at least four times diameter of largest damage.

b. Delaminations which:

(1) Are not open to edge.

(2) Are between first and second plies.

(3) Can be enclosed in a 4.0 inch diameter circle.

(4) Distance between damages is at least four times diameter of largest damage.

8. Skin Delaminations Open to Edge of Part or at Fastener Holes, Class IV Damage. See figure 3, section D. Determine size and location of delaminations (A1-F18AC-SRM-300, WP008 02). Class IV damage is damage which does not exceed the limits below.

a. Delaminations open to edge at any depth which:

(1) Do not extend more than 1.0 inch from edge.

(2) Are no longer than 4.0 inches.

(3) Distance between damages is at least four times length of longest damage.

b. Delamination at fastener hole at any depth which can be enclosed in a 0.75 inch diameter circle.

9. Skin Damage Below Second Ply, Not Open to Edge of Part, Class VI Damage. See figure 3, section E. Determine size and location of delaminations (A1-F18AC-SRM-300, WP008 02). Class VI damage is damage which does not exceed the limits below.

a. Delaminations which:

(1) Can be enclosed in a 4.0 inch diameter circle.

(2) Distance between damages is four times diameter of largest damage.

b. Cuts, gouges, or dents which:

(1) Can be enclosed in a 4.0 inch diameter circle.

(2) Distance between damages is four times diameter of largest diameter.

10. REPAIRS.

11. Class I, II, III, IV, and VI damages are organizational maintenance. Repair class I, II, III, IV, and VI damages per procedures below:

a. Repair class I damage (A1-F18AC-SRM-250, WP039 00).

b. Repair class II damage (A1-F18AC-SRM-250, WP040 00).

c. Repair class III damage (A1-F18AC-SRM-250, WP041 00).

d. Repair class IV damage (A1-F18AC-SRM-250, WP042 00).

e. Repair class VI damage (A1-F18AC-SRM-250, WP044 00).

12. REPLACEMENTS.

13. **COVER (DOOR 60).** Cover is interchangeable. Screw is retained captive in the door assembly.

14. **COVER (DOOR 61).** Cover is interchangeable. Screw is retained captive in the door assembly.

15. **COVER (DOOR 76).** Cover is interchangeable. Fastener attaching hardware is shown on figure 4. For fasteners (A1-F18AC-SRM-410, FIG 014 00). For replacement rivets, attaching plate nuts, (A1-F18AC-SRM-200, WP004 05). Apply finish system as required (A1-F18AC-SRM-500, WP027 00).

16. **COVER (DOOR 77).** Cover is interchangeable. Fastener attaching hardware is shown on figure 4. For fasteners (A1-F18AC-SRM-410, FIG 014 00). For replacement rivets, attaching plate nuts, (A1-F18AC-SRM-200, WP004 05). Apply finish system, as required (A1-F18AC-SRM-500, WP027 00).

17. **COVER (DOOR 106).** Cover is interchangeable. Fastener attaching hardware is shown on figure 4. For fasteners (A1-F18AC-SRM-410, FIG 013 00). For replacement rivets, attaching plate nuts, (A1-F18AC-SRM-200, WP004 05). Apply finish system as required (A1-F18AC-SRM-500, WP027 00).

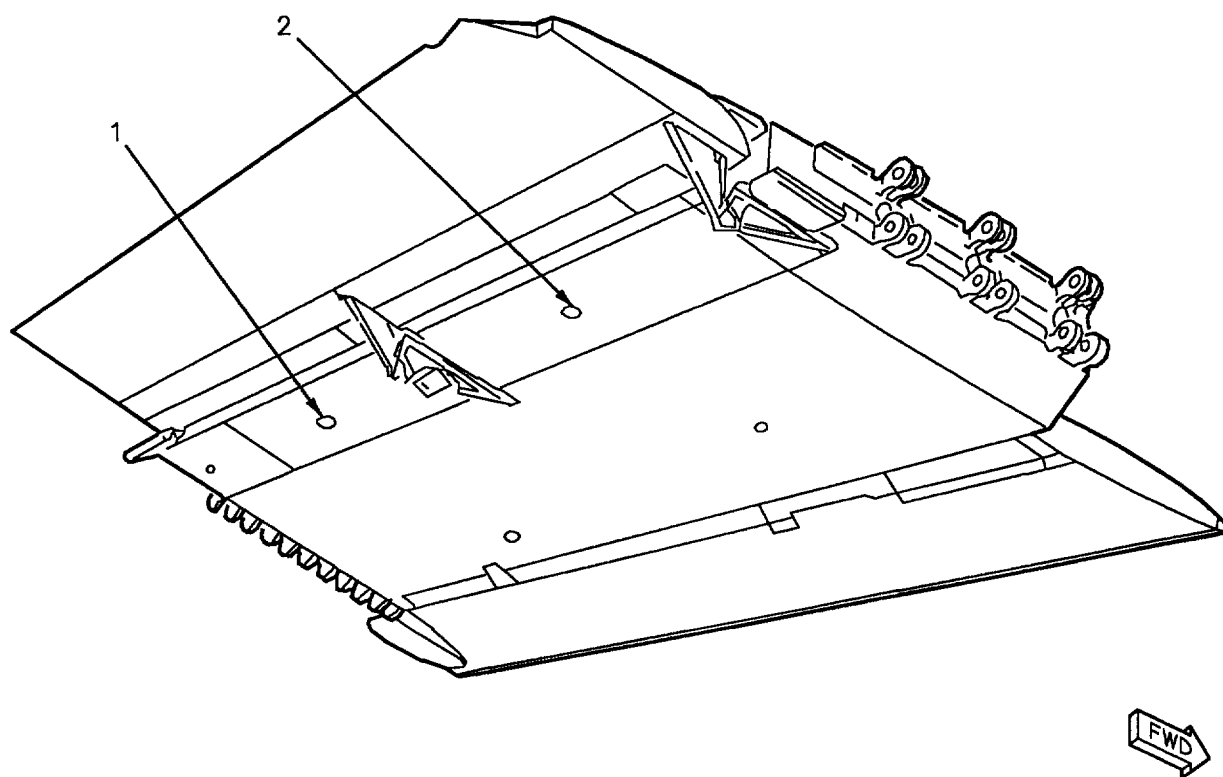
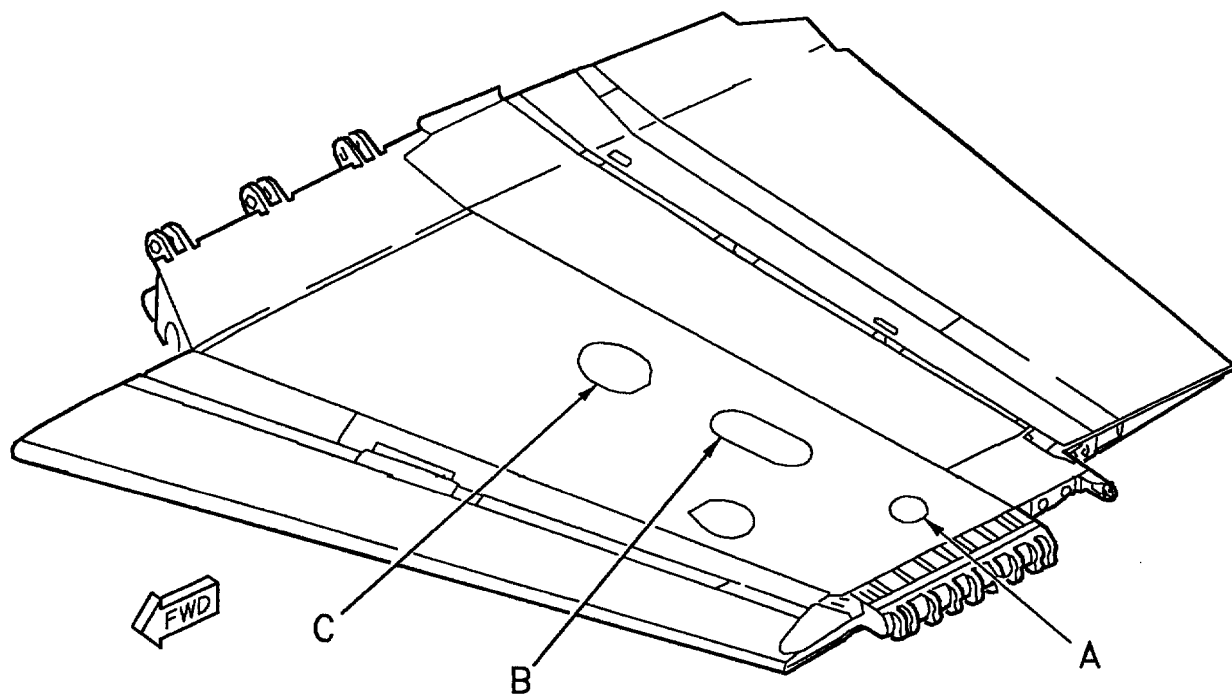


Figure 1. Material Index (Sheet 1)

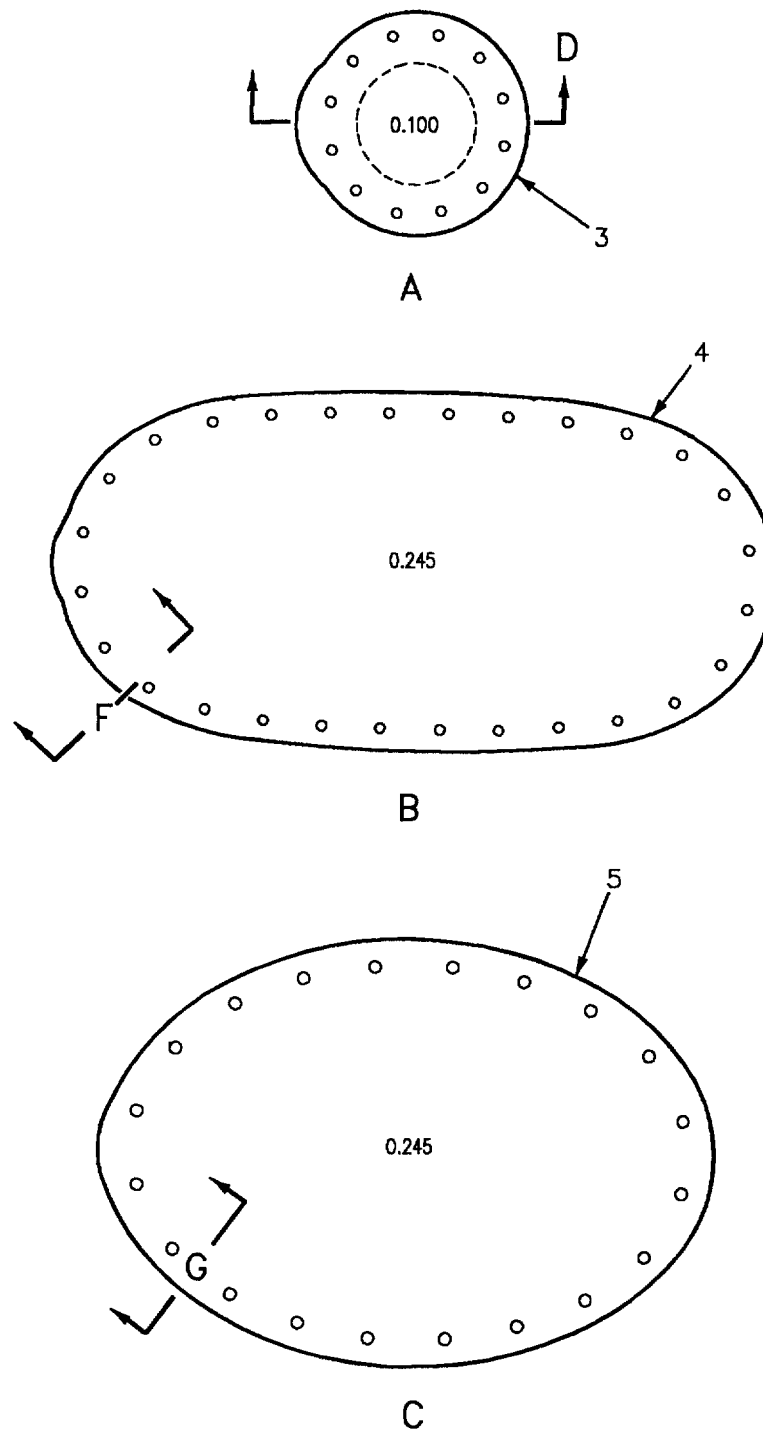
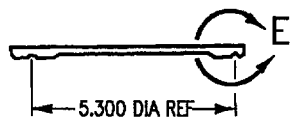
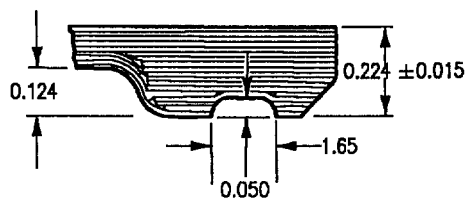


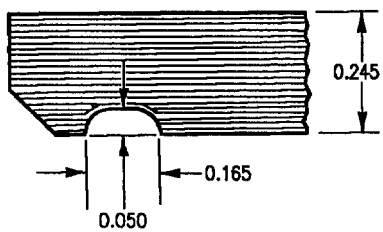
Figure 1. Material Index (Sheet 2)



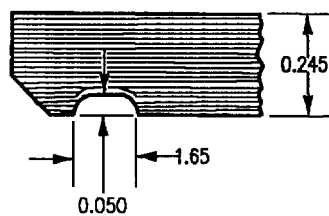
D



E



G



F

Figure 1. Material Index (Sheet 3)

IDX NO.	EFT	Nomenclature and Part No.	Description	Material
1	<div>6</div> <div>7</div>	Cover (Door 61) <div>8</div> 885-300-002 885-300-004	0.42 Sheet	<div>5</div>
2	<div>6</div> <div>7</div>	Cover (Door 60) <div>8</div> 885-300-002 885-300-004	0.42 Sheet	<div>5</div>
3		Cover (Door 106) 74A110828-2015	<div>2</div>	<div>3</div>
4		Cover (Door 77) 74A110640-2019	<div>1</div>	<div>4</div>
5		Cover (Door 76) 74A110639-2019	<div>1</div>	<div>4</div>
<p style="text-align: center;">LEGEND</p> <div>1</div> Skin is fabricated of varying plies of fiberglass laminate and metal mesh. <div>2</div> Fiberglass laminate. <div>3</div> Glass epoxy prepreg. <div>4</div> Fiberglass reinforced plastic laminate, knitted metal mesh. <div>5</div> Glass reinforced nylon. <div>6</div> 161353 thru 161519. <div>7</div> 161520 and Up. <div>8</div> Screw and retainer are captive.				

Figure 1. Material Index (Sheet 4)

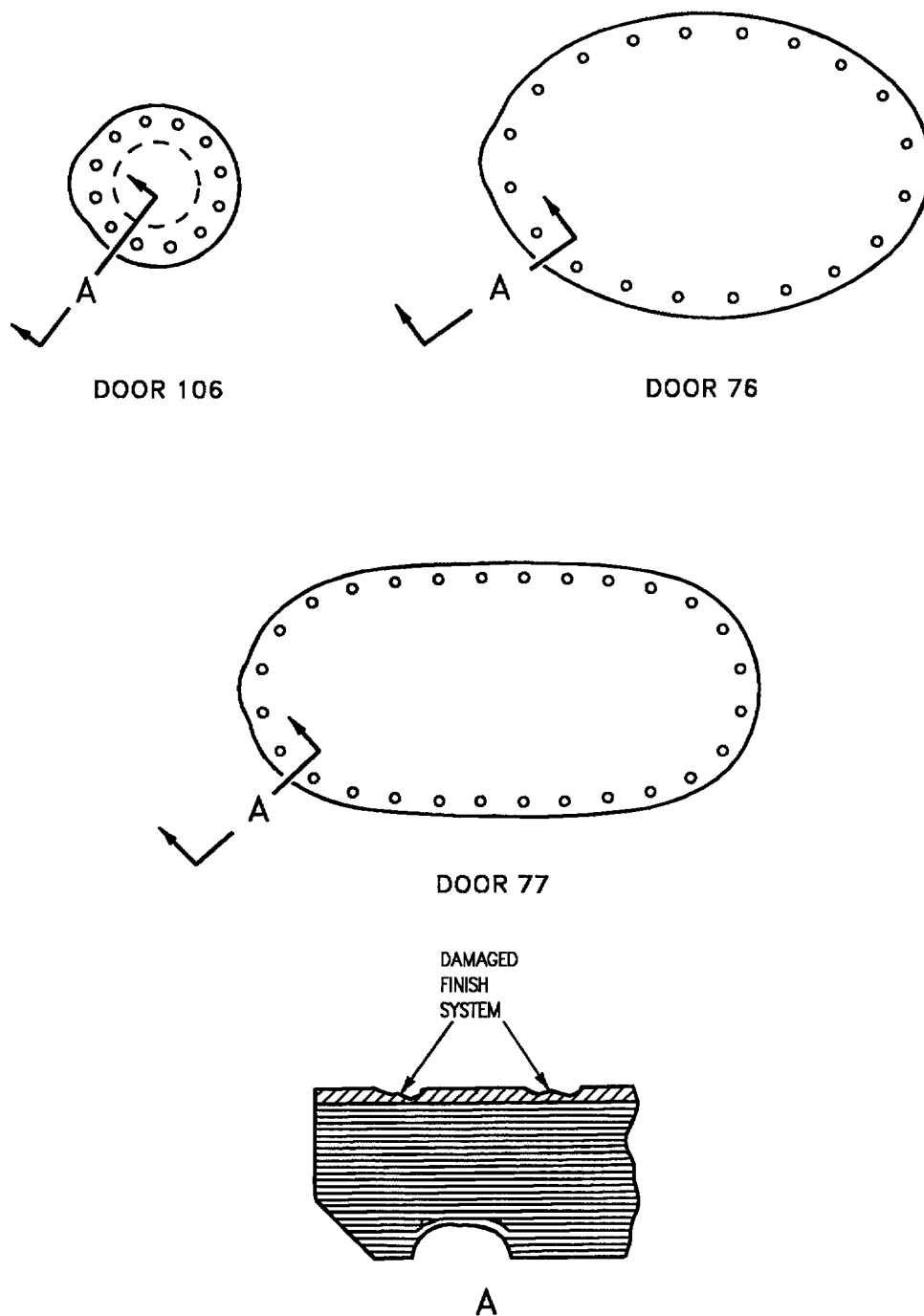
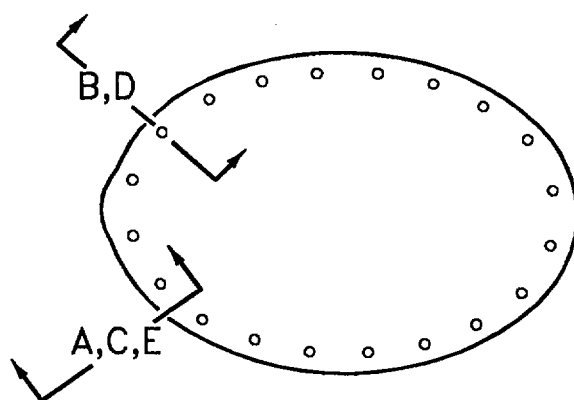
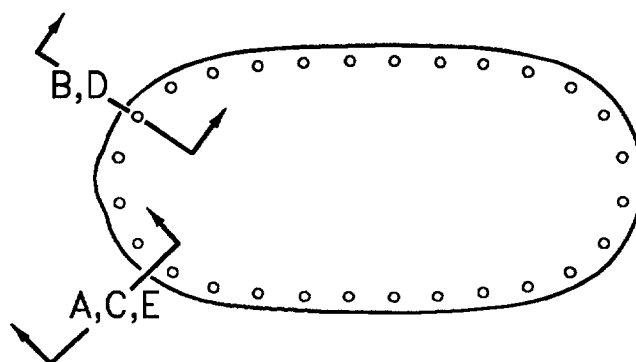


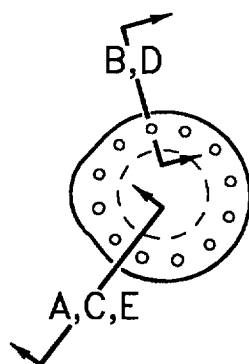
Figure 2. Negligible Damage, Fiberglass or Aramid Skins



DOOR 76



DOOR 77



DOOR 106

Figure 3. Repairable Damage, Fiberglass or Aramid Skins (Sheet 1)

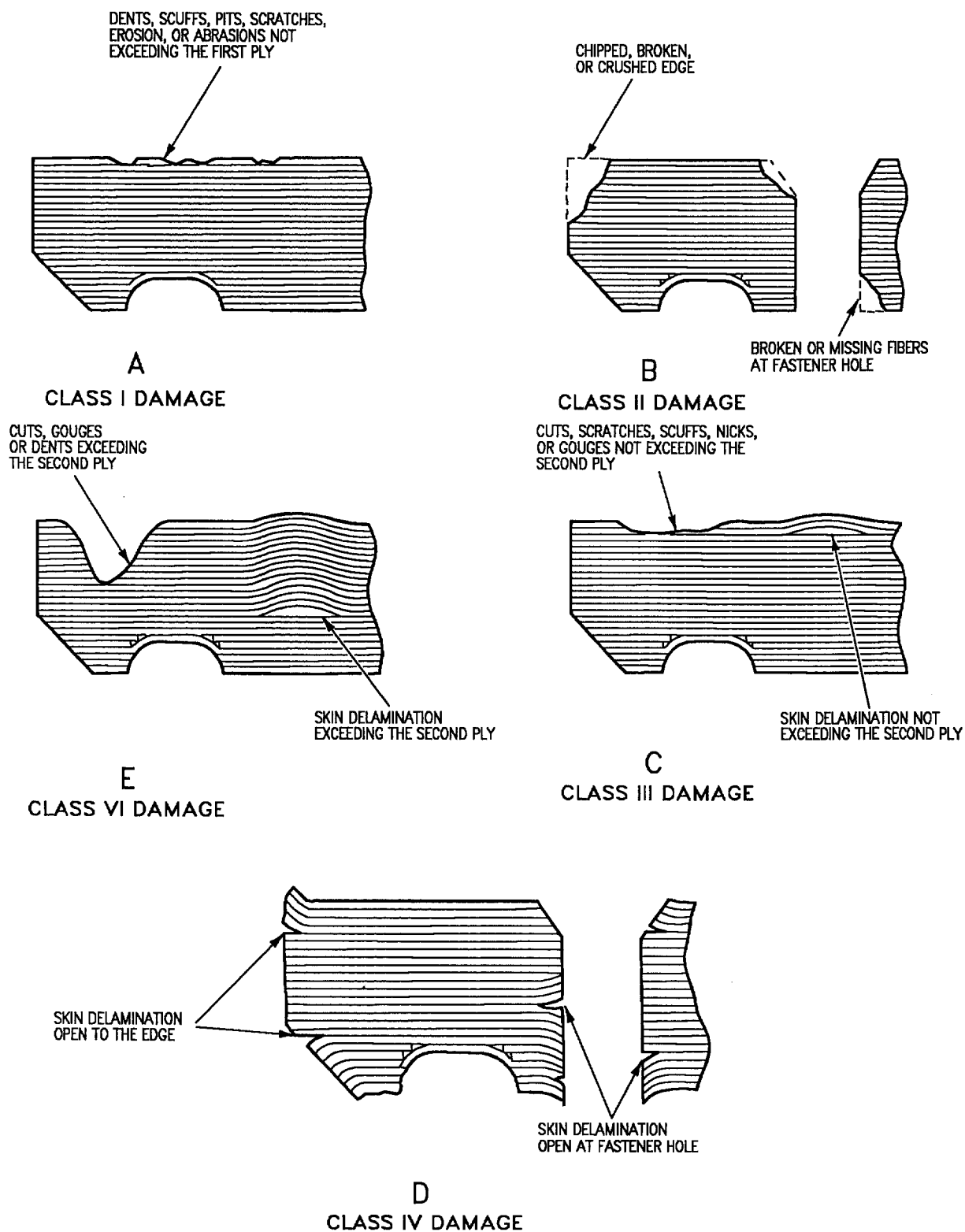


Figure 3. Repairable Damage, Fiberglass or Aramid Skins (Sheet 2)

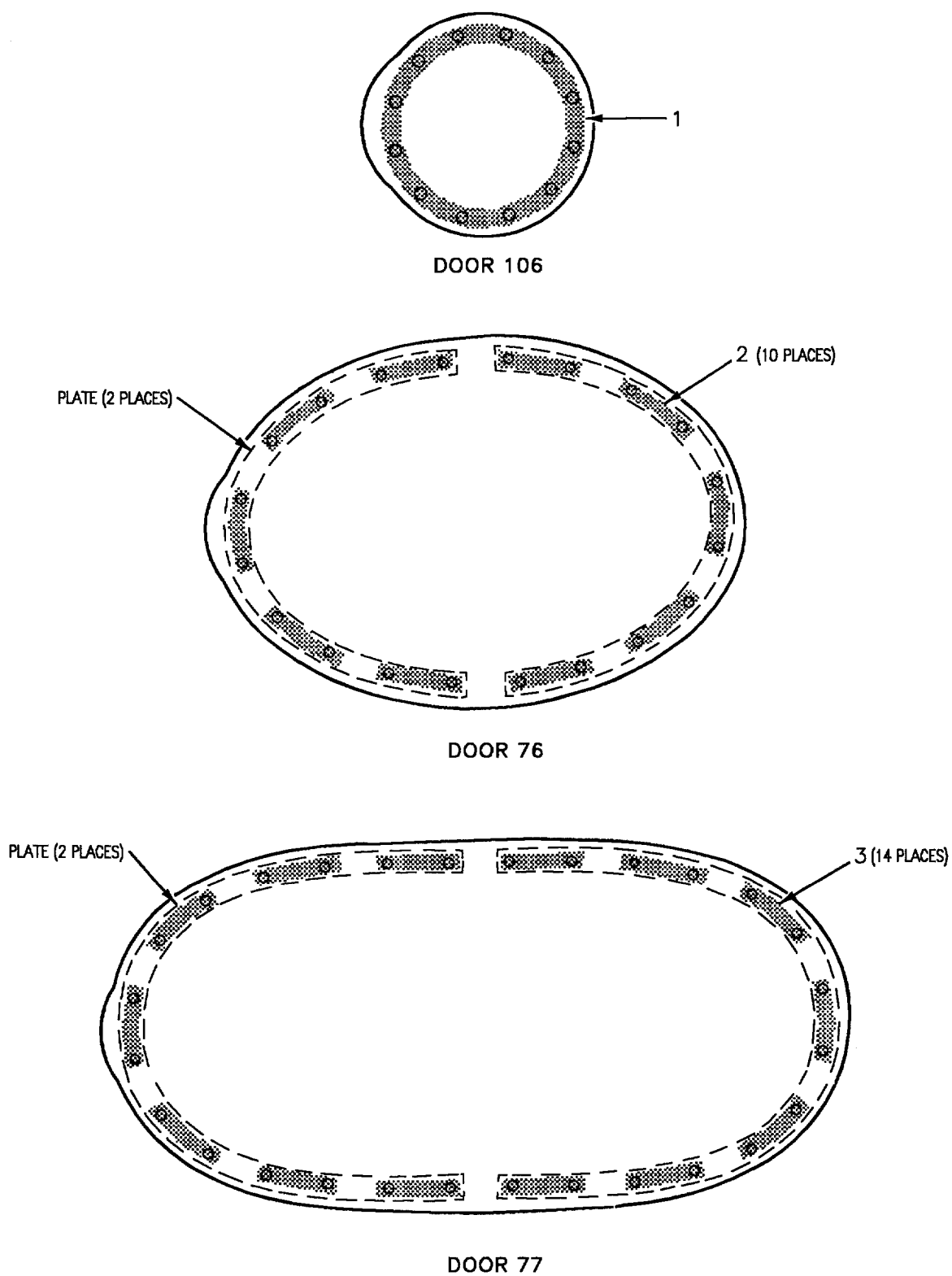


Figure 4. Cover (Door 76, 77, and 106) Replacement (Sheet 1)





IDX NO.	EFT		Nomenclature	Part Number
1			Plate Nut	F50339-4-2
2			Plate Gang Channel	74A110938-2001 G18421JL1-4-12
3			Plate Gang Channel	74A110938-2003 G18421JL1-4-12
LEGEND				
 Hole diameter is 0.255 +0.007 -0.000.				

Figure 4. Cover (Door 76, 77, and 106) Replacement (Sheet 2)

DEPOT MAINTENANCE

STRUCTURE REPAIR

HOLE LOCATING PLATE SETS

RE174110956 (DOOR 79), RE174110965 (DOOR 78), RE174110966 (DOOR 82)

Reference Material

Structure Repair, Wing	A1-F18AC-SRM-210
Inner Wing Graphite Epoxy Doors 78, 79, 82, 191, 192 and 193	WP005 00
Aircraft Corrosion Control	A1-F18AC-SRM-500
Form In Place Sealing	WP010 00
Inner and Outer Wing Finish System and Markings	WP027 00
Line Maintenance Access Doors	A1-F18AC-LMM-010
Structure Repair, General Information	A1-F18AC-SRM-200
Accessory Kits and Spray Mist Coolant Tank	WP004 16
Adhesive, Cement, and Sealant; Preparation and Application	WP011 00

Alphabetical Index

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Drilling Holes in Door 79	18
Drilling Holes in Door 82	2
Drilling Holes in Door 78 and Substructure	17
Drilling Holes in Door 79 and Substructure	52
Drilling Holes in Door 82 and Substructure	14
Drilling Holes in Door 78 Substructure	16
Drilling Holes in Door 79 Substructure	51
Drilling Holes in Door 82 Substructure	8

Record of Applicable Technical Directives

None

1. DESCRIPTION.

2. The plate sets are used on aircraft 161353 thru 161987 to locate the attach hole pattern on replaceable covers and/or mating substructure. The plate sets are also used on aircraft 162394 and Up to locate the attach hole pattern on mating substructure for inter-

changeable doors. The plate sets contain high temperature fiberglass bonded assemblies. Hole boards are provided to show holes, hole numbers, repair numbers, and material of cover and substructure. Repair numbers on the hole boards are color coded to coincide with bonded assemblies and applicable repair number work package, Structure Repair General Information (A1-F18AC-SRM-200).

3. **DRILLING HOLES IN DOOR 82.** See figure 1.**Support Equipment Required**

Part Number or Type Designation	Nomenclature
RE174110966	Hole Locating Plate Set, Access Cover No. 82
RE374000002	Accessory Kit-Plate Sets, Hole Locating

Materials Required

Specification or Part Number	Nomenclature
---------------------------------	--------------

■ Cerrobend Solder, Wire

- a. Remove damaged door 82 (A1-F18AC-LMM-010).
- b. Select and install RE374000002 dummy fasteners into all substructure fastener holes, view A.
- c. Tighten skin thickness adapters (detail 101) on bonded assembly to simulate thickness of new door, view C.
- d. Position sequence A bonded assembly (detail 11) in position on door 82 substructure and align edges for equal spacing, view A.
- e. Install applicable RE374000002 step pins and bushings through bonded assembly holes and into dummy fasteners in substructure, views A and D.



Solder, Wire

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f. Pot bushings in bonded assembly using melted cerrobend, with a minimum of 75% fill, per Hole Locating Plate Set Accessory Kit (A1-F18AC-SRM-200, WP004 16), view D.

g. Remove sequence A bonded assembly (detail 11).

h. Repeat steps c through f for sequence B bonded assembly (detail 12).

i. Remove sequence B bonded assembly (detail 12).

j. Trim replacement door 82 (WP005 00).

k. Place replacement cover on work surface.

l. Retract skin thickness adapters (detail 101) on bonded assembly to allow bonded assembly to contact replacement door.

m. Position sequence A bonded assembly (detail 11) on replacement door and align edges for equal spacing, view B.

n. Clamp bonded assembly to replacement door.

o. Drill and ream hole pattern in replacement door using applicable hole board and applicable repair number work package in Structure Repair, General Information (A1-F18AC-SRM-200).

p. Remove sequence A bonded assembly (detail 11).

q. Position sequence B bonded assembly (detail 12) on replacement door and pin in place at numbered index holes 924 and 1358 using RE374000002 step pins per table 1, views B and E.

r. Repeat steps n and o for sequence B bonded assembly (detail 12).

s. Remove sequence B bonded assembly (detail 12).

t. Countersink holes in door per Aircraft Structure Repair Tool Kit (A1-F18AC-SRM-200, WP004 16).

u. Clean loose material from door 82 and door area.

v. Install form in place seal on door 82 (A1-F18AC-SRM-500, WP010 00).

w. Install door 82 (A1-F18AC-LMM-010). Install fasteners wet with sealant (A1-F18AC-SRM-200, WP011 00).

x. Apply finish system and markings (A1-F18AC-SRM-500, WP027 00).

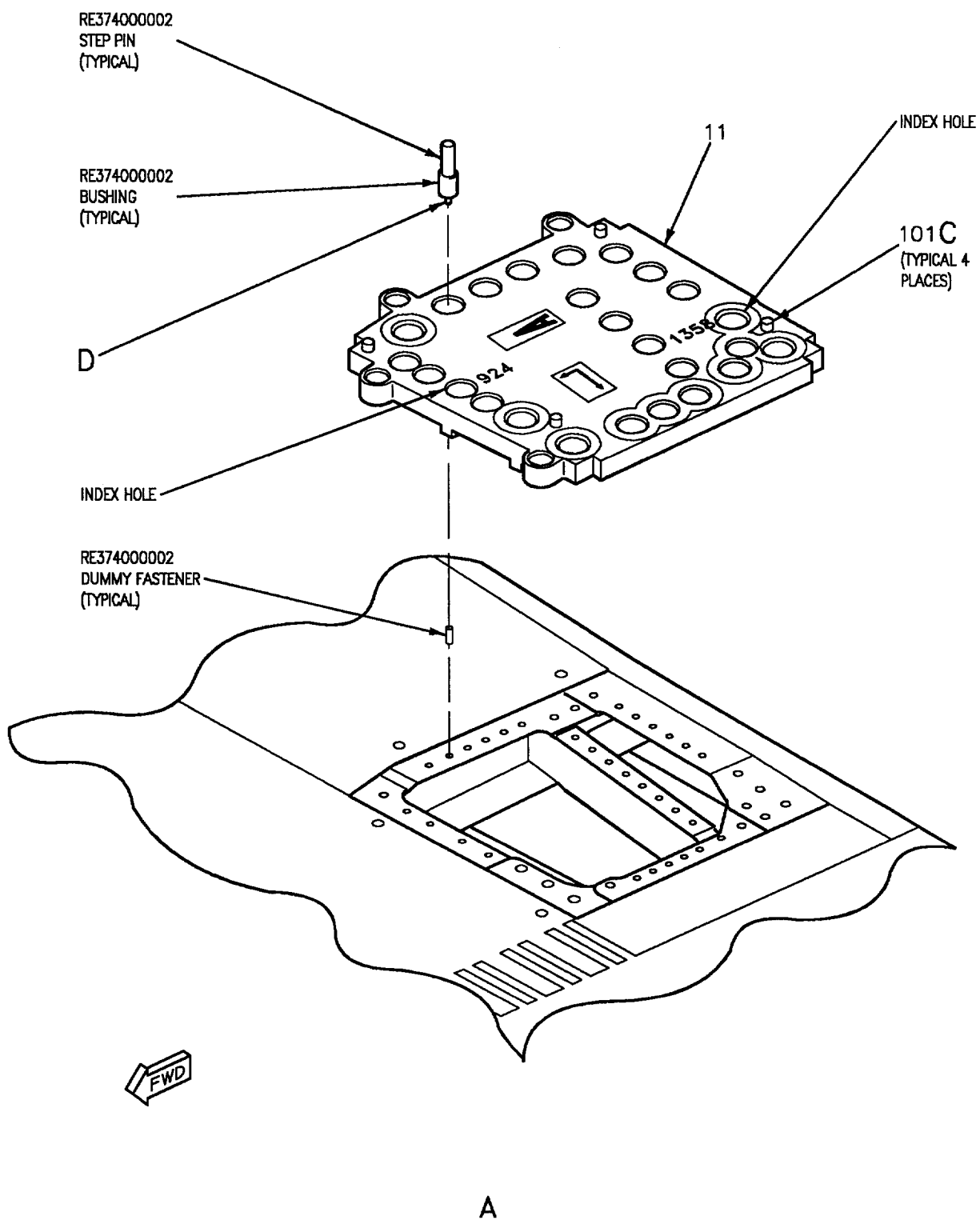


Figure 1. Installation of Plate Set for Drilling Door 82 (Sheet 1)

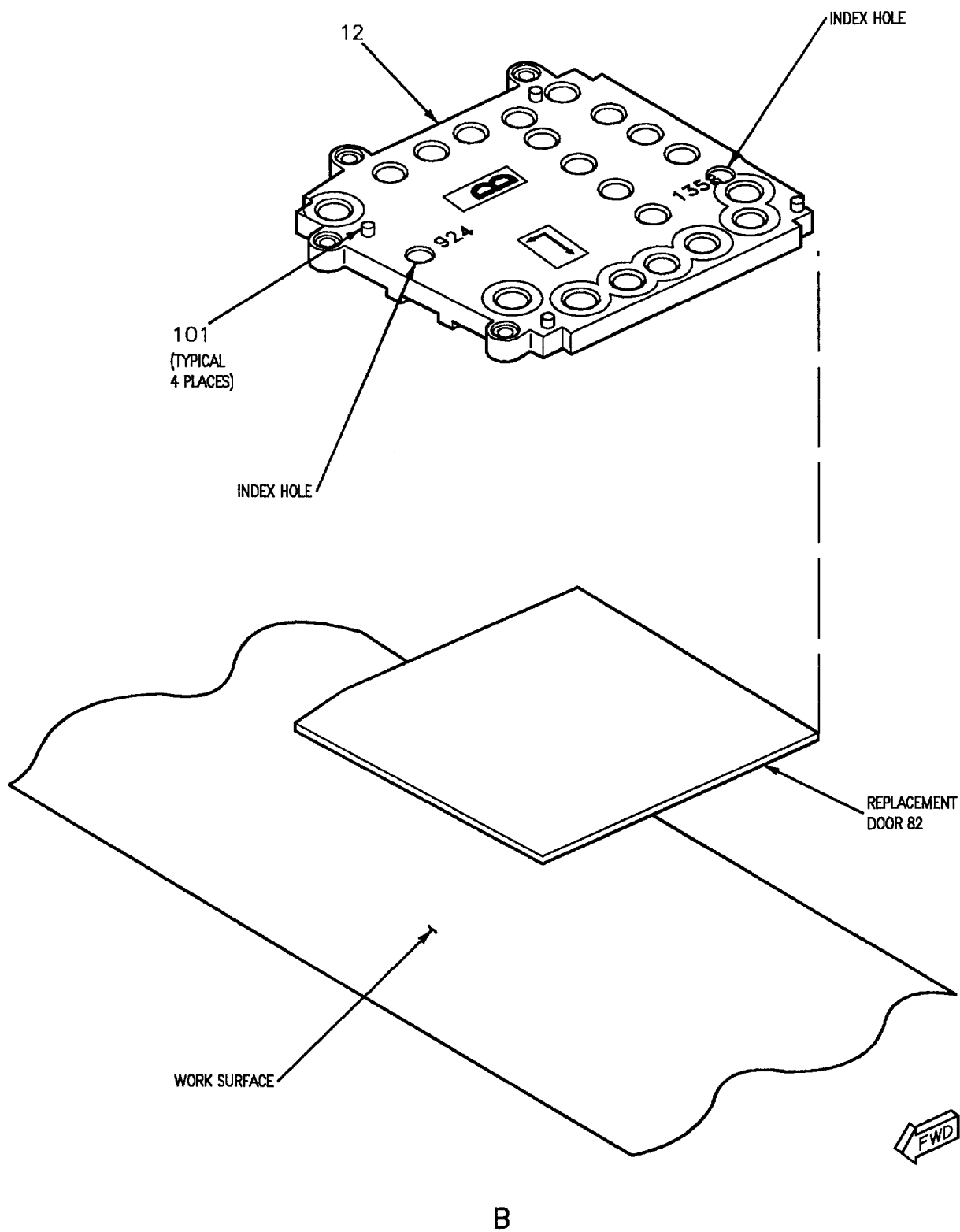


Figure 1. Installation of Plate Set for Drilling Door 82 (Sheet 2)

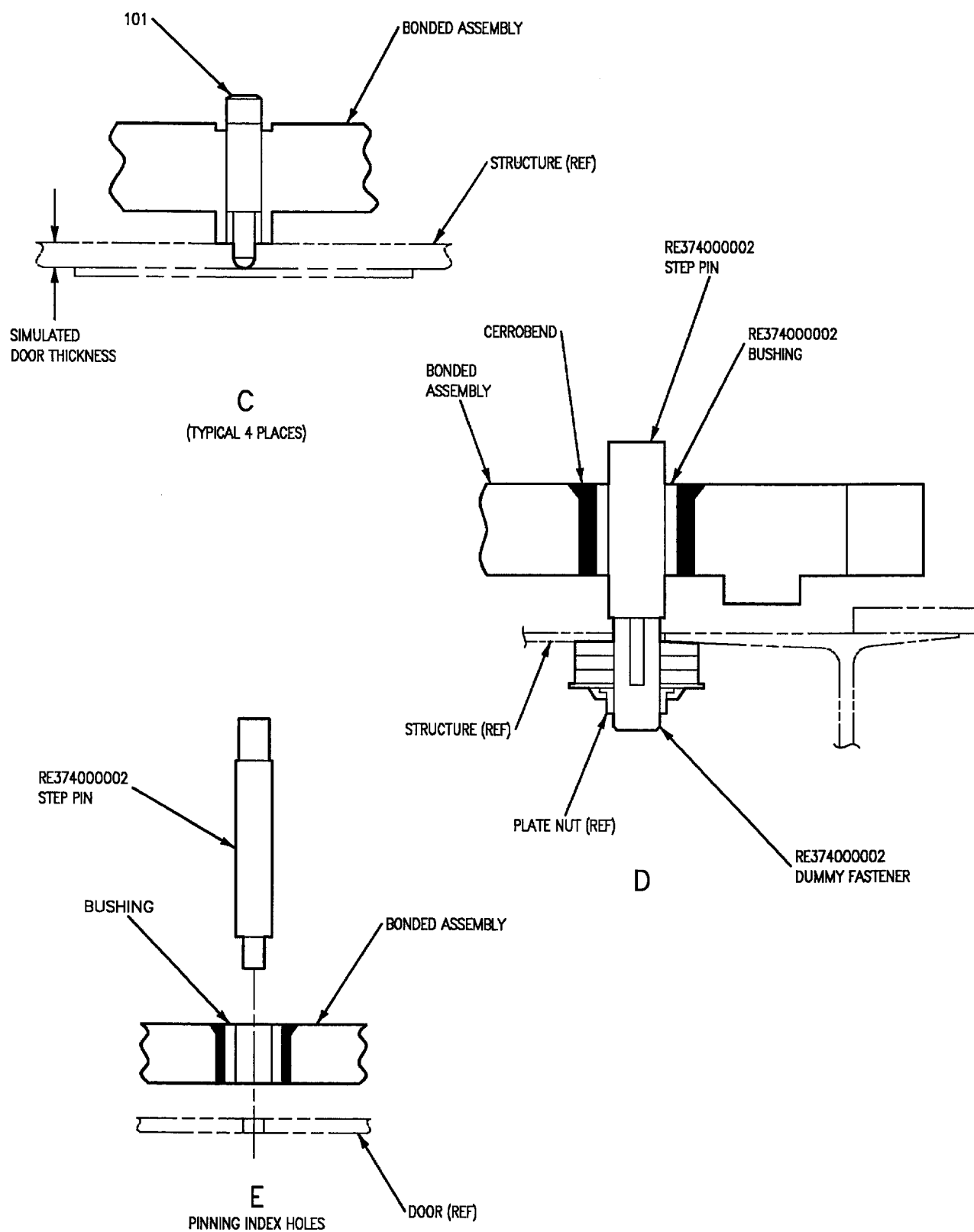


Figure 1. Installation of Plate Set for Drilling Door 82 (Sheet 3)

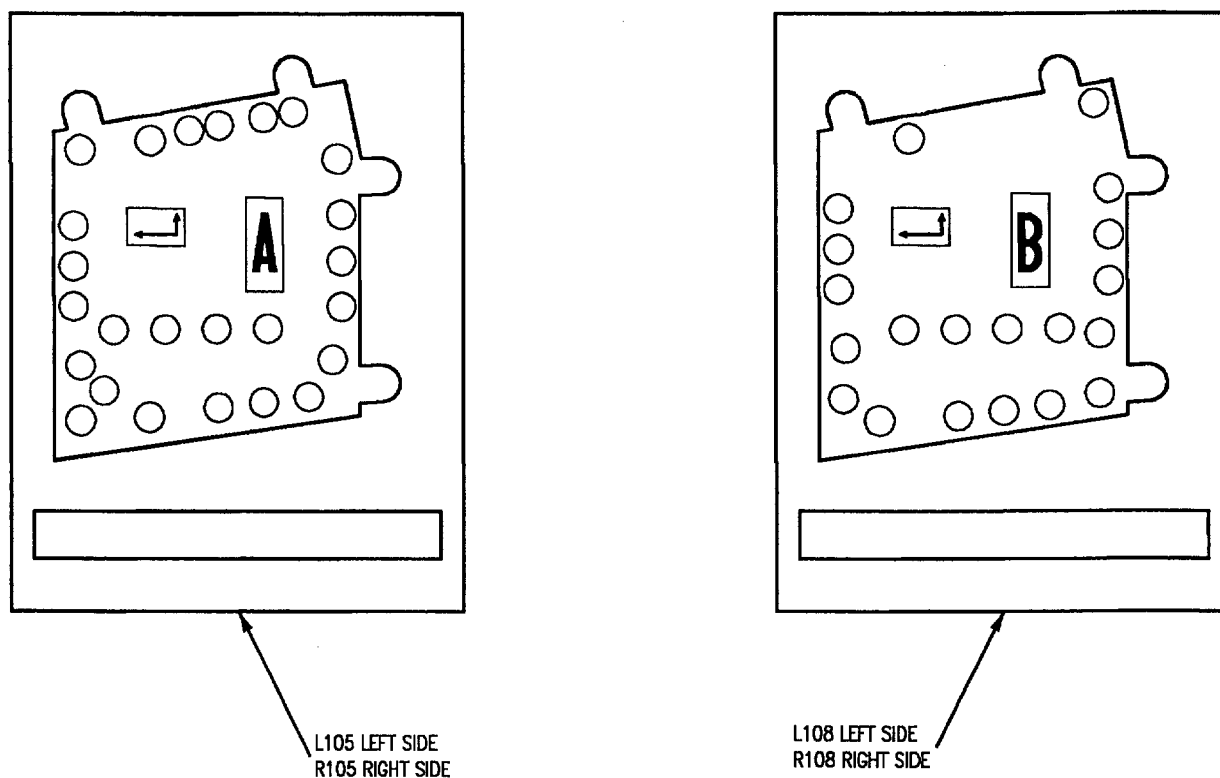


TABLE 1. DETAILS OF RE374000002 USED FOR INDEX HOLES				
NOTE	HOLE NO.	HOLE DIA.	STEP PIN DETAIL NO.	POTTED BUSHING
1	859	0.3125	119	121
2	924	0.3125	119	121
3	924	0.322	155	121
1	978	0.4375	120	121
1	1160	0.3125	119	121
1	1166	0.3125	119	121
2	1358	0.3750	157	121
3	1358	0.385	156	121

- 1 INDEX HOLES IN SKIN OR STRUCTURE NEXT TO DOOR AREA.
 2 EFFECTIVITY: 161353 THRU 161987.
 3 EFFECTIVITY: 162394 AND UP.

Figure 1. Installation of Plate Set for Drilling Door 82 (Sheet 4)

Detail No.	Name	Function
11	Sequence A Bonded Assembly	Used to locate and drill hole pattern in door and structure.
12	Sequence B Bonded Assembly	Used to locate and drill hole pattern in door and structure.
101	Skin Thickness Adapter	Simulates thickness of door on structure.
L105, R105	Hole Board	Sequence A reference board for effectivity: 161353 thru 161987.
L108, R108	Hole Board	Sequence B reference board for effectivity: 161353 thru 161987.

Figure 1. Installation of Plate Set for Drilling Door 82 (Sheet 5)

4. DRILLING HOLES IN DOOR 82 SUBSTRUCTURE. See figure 2.

Support Equipment Required

Part Number or Type Designation	Nomenclature
RE174110966	Hole Locating Plate Set, Access Cover No. 82
RE374000002	Accessory Kit-Plate Sets, Hole Locating

Materials Required

Specification or Part Number	Nomenclature
------------------------------	--------------

 Cerrobond	Solder, Wire
---	--------------

- a. Remove door 82 (A1-F18AC-LMM-010).
- b. Remove and replace damaged substructure.
- c. Retract skin thickness adapters (detail 101) on bonded assembly to allow bonded assembly to contact door.
- d. Place door 82 on work surface.
- e. Position sequence A bonded assembly (detail 11) on door and align edges for equal spacing, view A.
- f. Install applicable RE374000002 step pins and bushings through bonded assembly holes and into holes in door, views A and C.



Solder, Wire

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- g. Pot bushings in bonded assembly using melted cerrobend, with a minimum of 75% fill, per Hole Locating Plate Set Accessory Kit (A1-F18AC-SRM-200, WP004 16), view C.
- h. Remove sequence A bonded assembly (detail 11).

- i. Repeat steps c through g for sequence B bonded assembly (detail 12).
- j. Remove sequence B bonded assembly (detail 12).
- k. Tighten skin thickness adapters (detail 101) on bonded assembly to simulate thickness of door, views B and D.
- l. Position sequence A bonded assembly (detail 11) on structure and align edges for equal spacing, view B.
- m. Secure bonded assembly in place using clamps, or bolt in place at outer tab index hole locations, view E.
- n. Drill and ream hole pattern in replacement structure using applicable hole board and applicable repair number work package in Structure Repair, General Information (A1-F18AC-SRM-200).
- o. Remove sequence A bonded assembly (detail 11).
- p. Position sequence B bonded assembly (detail 12) on structure and pin in place at numbered index holes 924 and 1358 using RE374000002 step pins per table 1, views B and F.
- q. Repeat steps m and n for sequence B bonded assembly (detail 12).
- r. Remove sequence B bonded assembly (detail 12).
- s. Install attaching hardware on drilled structure per Replacements (WP005 00).
- t. Clean loose materials from door and door area.
- u. Install form in place seal on door 82 (A1-F18AC-SRM-500, WP010 00).
- v. Install door 82 (A1-F18AC-LMM-010). Install fasteners wet with sealant (A1-F18AC-SRM-200, WP011 00).
- w. Apply finish system and markings (A1-F18AC-SRM-500, WP027 00).

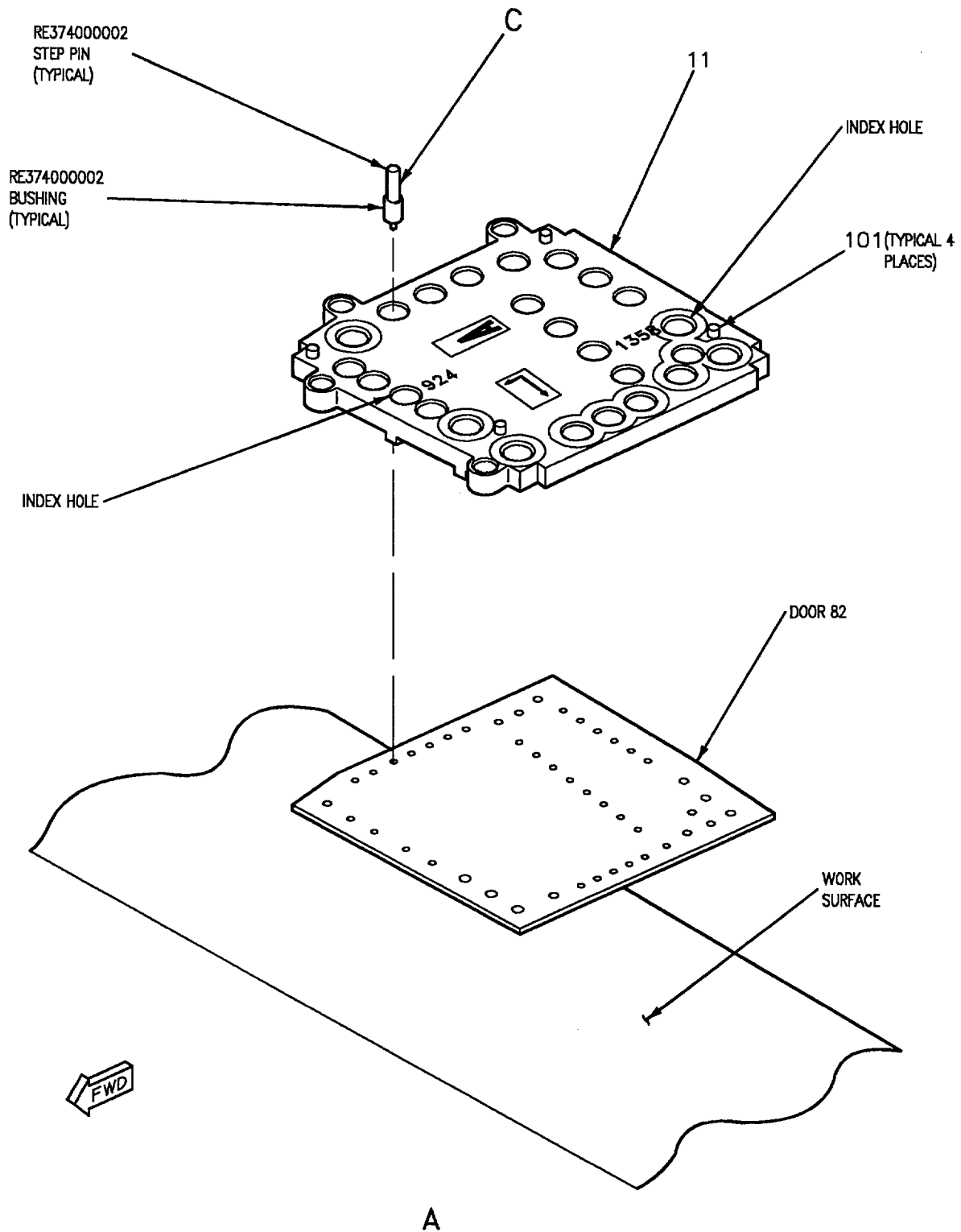
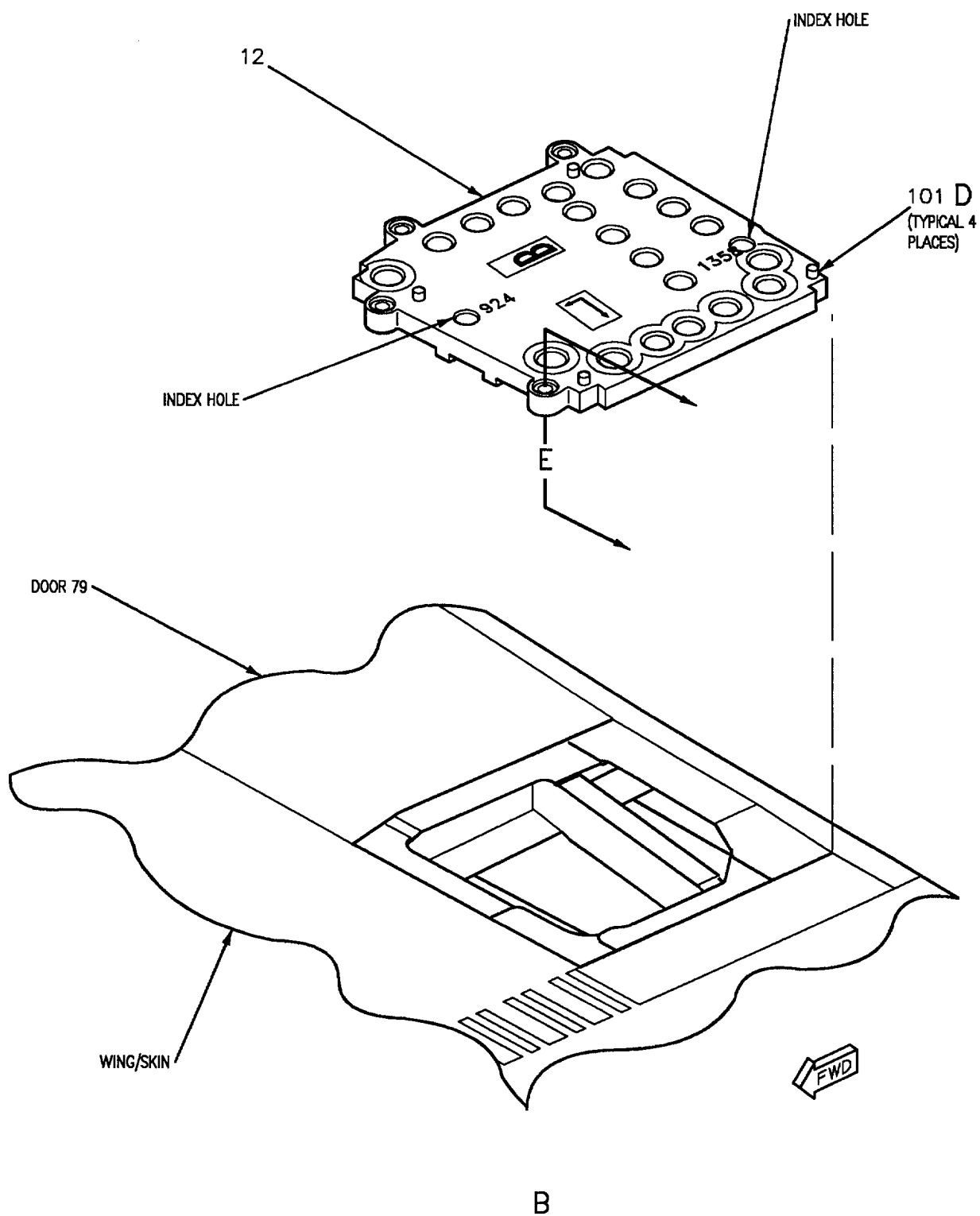
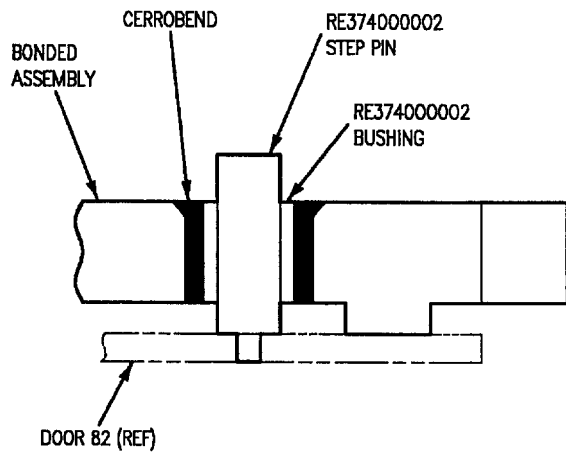


Figure 2. Installation of Plate Set for Drilling Door 82 Substructure (Sheet 1)

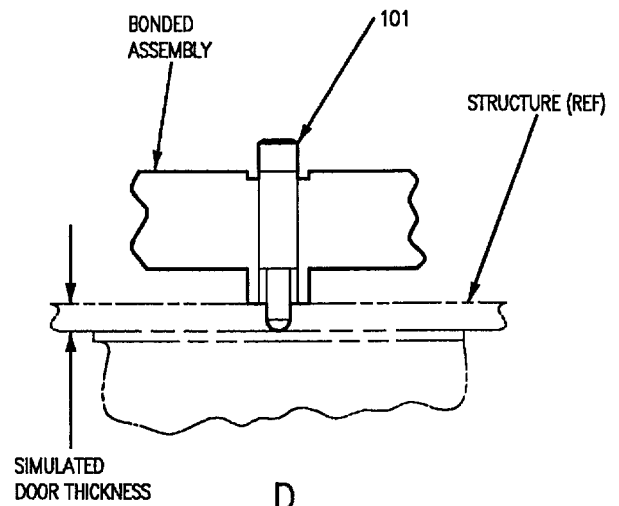


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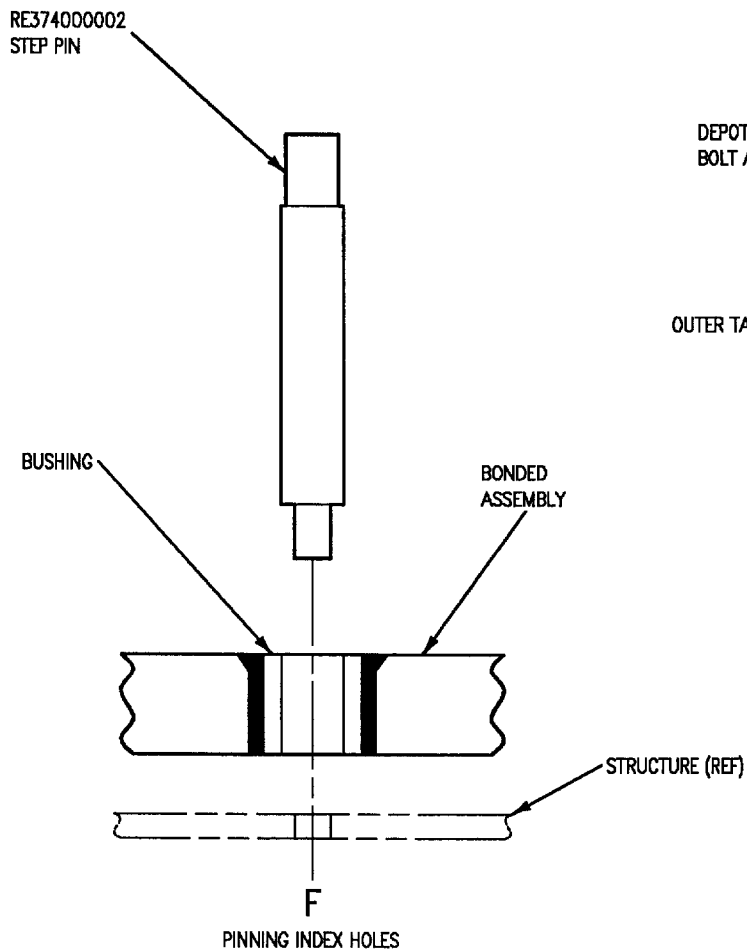
Figure 2. Installation of Plate Set for Drilling Door 82 Substructure (Sheet 2)



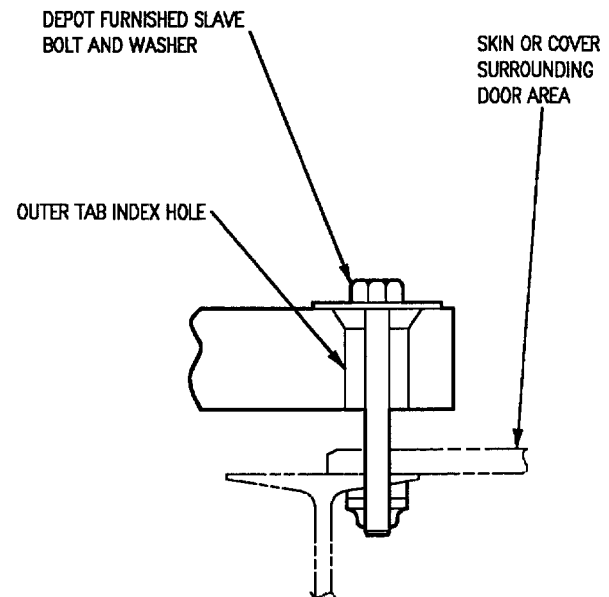
C



D

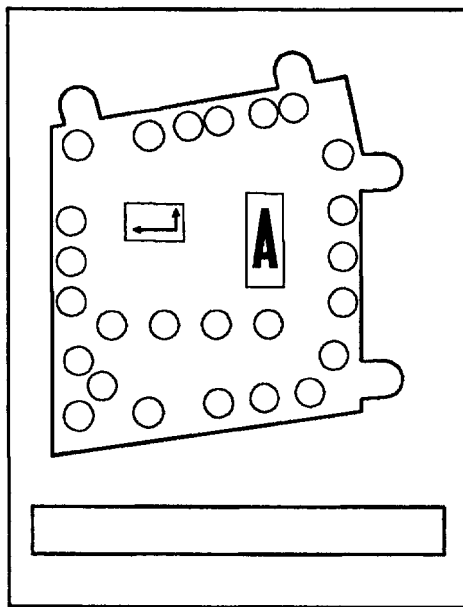


F

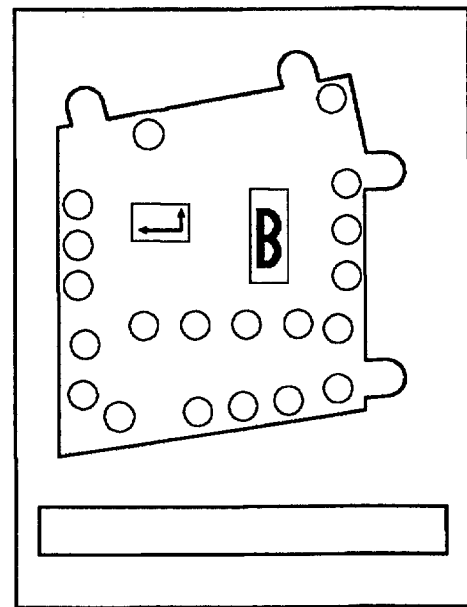


E

Figure 2. Installation of Plate Set for Drilling Door 82 Substructure (Sheet 3)



L106 LEFT SIDE
R106 RIGHT SIDE
L111 LEFT SIDE
R111 RIGHT SIDE



L109 LEFT SIDE
R109 RIGHT SIDE
L112 LEFT SIDE
R112 RIGHT SIDE

TABLE 1. DETAILS OF RE374000002 USED FOR INDEX HOLES

NOTE	HOLE NO.	HOLE DIA.	STEP PIN DETAIL NO.	POTTED BUSHING
1	859	0.3125	119	121
2	924	0.3125	119	121
3	924	0.322	155	121
1	978	0.4375	120	121
1	1160	0.3125	119	121
1	1166	0.3125	119	121
2	1358	0.3750	157	121
3	1358	0.385	156	121

- 1 INDEX HOLES IN SKIN OR STRUCTURE NEXT TO DOOR AREA.
 2 EFFECTIVITY: 161353 THRU 161987.
 3 EFFECTIVITY: 162394 AND UP.

05030204

Figure 2. Installation of Plate Set for Drilling Door 82 Substructure (Sheet 4)

Detail No.	Name	Function
11	Sequence A Bonded Assembly	Used to locate and drill hole pattern in door and structure.
12	Sequence B Bonded Assembly	Used to locate and drill hole pattern in door and structure.
101	Skin Thickness Adapter	Simulates thickness of door on structure.
L106, R106	Hole Board	Sequence A reference board for effectivity: 161353 thru 161987.
L109, R109	Hole Board	Sequence B reference board for effectivity: 161353 thru 161987.
L111, R111	Hole Board	Sequence A reference board for effectivity: 162394 and Up.
L112, R112	Hole Board	Sequence B reference board for effectivity: 162394 and Up.

Figure 2. Installation of Plate Set for Drilling Door 82 Substructure (Sheet 5)

5. DRILLING HOLES IN DOOR 82 AND SUB-STRUCTURE. See figure 3.

Support Equipment Required

Part Number or Type Designation	Nomenclature
RE174110966	Hole Locating Plate Set, Access Cover No. 82
RE374000002	Accessory Kit-Plate Sets, Hole Locating

Materials Required

Specification or Part Number	Nomenclature
------------------------------	--------------

■ Cerrobend	Solder, Wire
-------------	--------------

- a. Remove damaged door 82 (A1-F18AC-LMM-010).
- b. Remove and replace damaged substructure.
- c. Lay out fastener pattern on substructure or use an undamaged door 82 as a template to mark fastener pattern on substructure.
 - (1) If damaged door is used as a template, mark location of each fastener hole on structure through existing fastener holes of door.
 - (2) Inspect marked hole locations for correct edge distance.
- d. Pilot drill hole pattern in structure.
- e. Remove numbered fasteners 859, 978, 1160 and 1166 from wing skin and door 79, view A mate tabs on bonded assembly.
- f. Tighten skin thickness adapters (detail 101) on bonded assembly to simulate thickness of door, views A and C.
- g. Position sequence A bonded assembly (detail 11) on structure and align edges for equal spacing, view A.
- h. Install applicable RE374000002 pilot sized step pins and bushings through bonded assembly holes and into holes in structure, views A and D.

- i. Install applicable RE374000002 step pins and bushings through outer tabs of bonded assembly and into fastener holes, view A and E.



Solder, Wire

14

- j. Pot bushings in bonded assembly using melted cerrobend with a minimum of 75% fill, per Hole Location Plate Set Accessory Kit (A1-F18AC-SRM-200, WP004 16), view D.
- k. Remove sequence A bonded assembly (detail 11).
- l. Repeat steps f through j for sequence B bonded assembly (detail 12).
- m. Remove sequence B bonded assembly (detail 12).
- n. Trim replacement door 82 (WP005 00).
- o. Position replacement door in place on structure, view B.
- p. Retract skin thickness adapters (detail 101) on bonded assemblies to allow bonded assembly to contact door.
- q. Position sequence A bonded assembly (detail 11) on door and pin at two outer tab index hole locations using RE374000002 step pins per table 1, views B and E.
- r. Secure bonded assembly and door in place using clamps, and bolt in place at two remaining outer tab index hole locations, view F.
- s. Drill and ream hole pattern in replacement door and substructure using applicable hole board and applicable repair number work package in Structure Repair, General Information (A1-F18AC-SRM-200). Install L-pins per table 2 after drilling each hole to prevent door from shifting, view G.
- t. Remove sequence A bonded assembly (detail 11).
- u. Position sequence B bonded assembly (detail 12) on door and pin in place at numbered index holes 924 and 1358 using RE374000002 step pins per table 1, view H.

v. Secure bonded assembly in place using clamps, and bolt in place at outer tab index hole locations, view F.

w. Drill and ream hole pattern in replacement door and substructure using applicable hole board and applicable repair number work package in Structure Repair, General Information (A1-F18AC-SRM-200). Install L-pins per Table 2 after drilling each hole to prevent door from shifting, view G.

x. Remove sequence B bonded assembly (detail 12).

y. Countersink holes in door per Aircraft Structure Repair Tool Kit (A1-F18AC-SRM-200, WP004 16).

z. Install attaching hardware on drilled structure per Replacements (WP005 00).

aa. Clean loose materials from door 82 and door area.

ab. Reinstall numbered fasteners 859, 978, 1160, and 1166 in wing skin and door 79.

ac. Install form in place seal on door 82 (A1-F18AC-SRM-500, WP010 00).

ad. Install door 82 (A1-F18AC-LMM-010). Install fasteners wet with sealant (A1-F18AC-SRM-200, WP011 00).

ae. Apply finish system and markings (A1-F18AC-SRM-500, WP027 00).

6. **DRILLING HOLES IN DOOR 78.** See figure 4.

Support Equipment Required

Part Number or Type Designation	Nomenclature
RE174110965	Hole Locating Plate Set, Access Cover No. 78
RE374000002	Accessory Kit-Plate Sets, Hole Locating

Materials Required

Specification or Part Number	Nomenclature
■ Cerrobend	Solder, Wire

a. Remove damaged door 78 (A1-F18AC-LMM-010).

b. Select and install RE374000002 dummy fasteners into all substructure fastener holes, view A.

c. Tighten skin thickness adapters (detail 104) on bonded assembly to simulate thickness of new door, view C.

d. Position sequence A bonded assembly (detail 11) in position on door 78 substructure and align edges for equal spacing, view A.

e. Install applicable RE374000002 step pins and bushings through bonded assembly holes and into dummy fasteners in substructure, views A and D.



Solder, Wire



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f. Pot bushings in bonded assembly using melted cerrobend, with a minimum of 75% fill, per Hole Locating Plate Set Accessory Kit (A1-F18AC-SRM-200, WP004 16), view D.

g. Remove sequence A bonded assembly (detail 11).

h. Repeat steps c thru f for sequence B bonded assembly (detail 12).

i. Remove sequence B bonded assembly (detail 12).

j. Trim replacement door 78 (WP005 00).

k. Place replacement cover on work surface.

l. Retract skin thickness adapters (detail 104) on bonded assembly to allow bonded assembly to contact replacement door.

m. Position sequence A bonded assembly (detail 11) on replacement door and align edges for equal spacing, view B.

n. Clamp bonded assembly to replacement door.

o. Drill and ream hole pattern in replacement door using applicable hole board and applicable repair number work package in Structure Repair, General Information (A1-F18AC-SRM-200).

- p. Remove sequence A bonded assembly (detail 11).
- q. Position sequence B bonded assembly (detail 12) on replacement door and pin in place at numbered index holes 1311 and 1331 using RE374000002 step pins per table 1, views B and E.
- r. Repeat steps n and o for sequence B bonded assembly (detail 12).
- s. Remove sequence B bonded assembly (detail 12).
- t. Countersink holes in door per Aircraft Structure Repair Tool Kit (A1-F18AC-SRM-200, WP004 16).
- u. Clean loose material from door and door area.
- v. Install form in place seal on door 78 (A1-F18AC-SRM-500, WP010 00).
- w. Install door 78 (A1-F18AC-LMM-010). Install fasteners wet with sealant (A1-F18AC-SRM-200, WP011 00).
- x. Apply finish system and markings (A1-F18AC-SRM-500, WP027 00).

7. DRILLING HOLES IN DOOR 78 SUBSTRUCTURE. See figure 5.

Support Equipment Required

Part Number or Type Designation	Nomenclature
RE174110965	Hole Locating Plate Set, Access Cover No. 78
RE374000002	Accessory Kit-Plate Sets, Hole Locating

Materials Required

Specification or Part Number	Nomenclature
■ Cerrobend	Solder, Wire

- a. Remove door 78 (A1-F18AC-LMM-010).
- b. Remove and replace damaged substructure.

- c. Retract skin thickness adapters (detail 104) on bonded assembly to allow bonded assembly to contact door.
- d. Place door 78 on work surface.
- e. Position sequence A bonded assembly (detail 11) on door and align edges for equal spacing, view A.
- f. Install applicable RE374000002 step pins and bushings through bonded assembly holes and into holes in door, views A and C.



Solder, Wire

14

- g. Pot bushings in bonded assembly using melted cerrobend, with a minimum of 75% fill, per Hole Locating Plate Set Accessory Kit (A1-F18AC-SRM-200, WP004 16), view C.
- h. Remove sequence A bonded assembly (detail 11).
- i. Repeat steps c thru g for sequence B bonded assembly (detail 12), view A.
- j. Remove sequence B bonded assembly (detail 12).
- k. Tighten skin thickness adapters (detail 104) on bonded assembly to simulate thickness of door, views B and D.
- l. Position sequence A bonded assembly (detail 11) on structure and align edges for equal spacing, view B.
- m. Secure bonded assembly in place using clamps, or bolt in place at outer tab index hole locations, view E.
- n. Drill and ream hole pattern in replacement structure using applicable hole board and applicable repair number work package in Structure Repair, General Information (A1-F18AC-SRM-200).
- o. Remove sequence A bonded assembly (detail 11).
- p. Position sequence B bonded assembly (detail 12) on structure and pin in place at numbered index holes 1311 and 1331 using RE374000002 step pins per table 1, views B and F.

- q. Repeat steps m and n for sequence B bonded assembly (detail 12).
- r. Remove sequence B bonded assembly (detail 12).
- s. Install attaching hardware on drilled structure per Replacements (WP005 00).
- t. Clean loose materials from door area.
- u. Install form in place seal on door 78 (A1-F18AC-SRM-500, WP010 00).
- v. Install door 78 (A1-F18AC-LMM-010). Install fasteners wet with sealant (A1-F18AC-SRM-200, WP011 00).
- w. Apply finish system and markings (A1-F18AC-SRM-500, WP027 00).

8. DRILLING HOLES IN DOOR 78 AND SUB-STRUCTURE. See figure 6.

Support Equipment Required

Part Number or Type Designation	Nomenclature
RE174110965	Hole Locating Plate Set, Access Cover No. 78
RE374000002	Accessory Kit - Plate Sets, Hole Locating

Materials Required

Specification or Part Number	Nomenclature
■ Cerrobend	Solder, Wire

- a. Remove damaged door 78 (A1-F18AC-LMM-010).
- b. Remove and replace damaged structure.
- c. Layout fastener pattern on substructure or use an undamaged door 78 as a template to mark fastener pattern on substructure.

(1) If undamaged door is used as a template, mark location of each fastener hole on structure through existing fastener holes of door.

- (2) Inspect marked hole locations for correct edge distance.
- d. Drill pilot hole pattern in structure.
- e. Removed numbered fasteners 14, 52, 1088, and 1092 from wing skin and door 79, view A.
- f. Tighten skin thickness adapters (detail 104) on bonded assembly to simulate thickness of door, views A and C.
- g. Position sequence A bonded assembly (detail 11) on structure and align edges for equal spacing, view A.
- h. Install applicable RE374000002 pilot sized step pins and bushings through bonded assembly holes and into holes in structure, views A and D.
- i. Install applicable RE374000002 step pins and bushings through outer tabs of bonded assembly and into fastener holes, views A and E.



Solder, Wire



14

- j. Pot bushings in bonded assembly using melted cerrobend, with a minimum of 75% fill, per Hole Locating Plate Set Accessory Kit (A1-F18AC-SRM-200, WP004 16), view D.
- k. Remove sequence A bonded assembly (detail 11).
- l. Repeat steps f thru j for sequence B bonded assembly (detail 12).
- m. Remove sequence B bonded assembly (detail 12).
- n. Trim replacement door 78 (WP005 00).
- o. Position replacement door in place on structure, view B.
- p. Retract skin thickness adapters (detail 104) on bonded assemblies to allow bonded assembly to contact door.
- q. Position sequence A bonded assembly (detail 11) on door and pin at two outer tab index hole locations using RE374000002 step pins per table 1, views B and E.

r. Secure bonded assembly and door in place using clamps, and bolt in place at two remaining outer tab index hole locations, view F.

s. Drill and ream hole pattern in replacement door and substructure using applicable hole board and applicable repair number work package in Structure Repair, General Information (A1-F18AC-SRM-200). Install L-pins per table 2 after drilling each hole to prevent door from shifting, view G.

t. Remove sequence A bonded assembly (detail 11).

u. Position sequence B bonded assembly (detail 12) on door and pin in place at numbered index holes 1311 and 1331 using RE374000002 step pins per table 1, view H.

v. Secure bonded assembly in place using clamps, and bolt in place at outer tab index hole locations, view F.

w. Drill and ream hole pattern in replacement door and substructure using applicable hole board and applicable repair number work package in Structure Repair, General Information (A1-F18AC-SRM-200). Install L-pins per table 2 after drilling hole to prevent door from shifting, view G.

x. Remove sequence B bonded assembly (detail 12).

y. Countersink holes in door per Aircraft Structure Repair Tool Kit (A1-F18AC-SRM-200, WP004 16).

z. Install attaching hardware on drilled structure per Replacements (WP005 00).

aa. Clean loose materials from door area.

ab. Reinstall numbered fasteners 14, 52, 1088, and 1092 in wing skin and door 79.

ac. Install form in place seal on door 78 (A1-F18AC-SRM-500, WP010 00).

ad. Install door 78 (A1-F18AC-LMM-010). Install fasteners wet with sealant (A1-F18AC-SRM-200, WP011 00).

ae. Apply finish system and markings (A1-F18AC-SRM-500, WP027 00).

9. **DRILLING HOLES IN DOOR 79.** See figure 7.

Support Equipment Required

Part Number or Type Designation	Nomenclature
RE174110956	Hole Locating Plate Set, Access Cover No. 79
RE374000002	Accessory Kit - Plate Sets, Hole Locating

Materials Required

Specification or Part Number	Nomenclature
Cerrobend	Solder, Wire

a. Remove damaged door 79 (A1-F18AC-LMM-010).

b. Select and install RE374000002 dummy fasteners into all substructure fastener holes, views A and B.

c. Tighten skin thickness adapters (detail 101) on bonded assemblies to simulate thickness of new door, view E.

d. Position sequence A bonded assembly halves (details 11 and 12) in position on door 79 substructure. Secure halves together using hand knobs (detail 105). Align edges for equal spacing, view A.

e. Install applicable RE374000002 step pins and bushings through bonded assembly holes and into dummy fasteners, views A and F.



Solder, Wire

14

f. Pot bushings in bonded assemblies using melted cerrobend, with a minimum of 75% fill, per Hole Locating Plate Set Accessory Kit (A1-F18AC-SRM-200, WP004 16), view F.

g. Remove sequence A bonded assemblies (details 11 and 12).

h. Repeat steps c thru f for sequence B bonded assembly halves (details 17 and 18).

i. Remove sequence B bonded assemblies (details 17 and 18).

j. Position sequence C bonded assembly (detail 13) and sequence E bonded assembly (detail 15) in posi-

tion on door 79 substructure aligning applicable index holes, and aligning edges for equal spacing, view B.

k. Install applicable RE374000002 step pins and bushings through bonded assemblies holes and into dummy fasteners, views B and F.

l. Pot bushings in bonded assemblies using melted cerrobend, with a minimum of 75% fill, per Hole Locating Plate Set Accessory Kit (A1-F18AC-SRM-200, WP004 16), view F.

m. Remove sequence C bonded assembly (detail 13) and sequence E bonded assembly (detail 15).

n. Repeat steps j thru l for sequence D bonded assembly (detail 14) and sequence F bonded assembly (detail 16).

o. Remove sequence D bonded assembly (detail 14) and sequence F bonded assembly (detail 16).

p. Trim replacement door 79 (WP005 00).

q. Place replacement cover on work surface.

r. Retract skin thickness adapters (detail 101) on bonded assemblies to allow bonded assemblies to contact replacement door.

s. Position sequence A bonded assemblies (details 11 and 12) on replacement door and align edges for equal spacing, view C.

t. Clamp bonded assembly to replacement door.

u. Drill and ream hole pattern in replacement door using applicable hole board and applicable repair number work package in Structure Repair, General Information (A1-F18AC-SRM-200).

v. Remove sequence A bonded assemblies (details 11 and 12).

w. Position sequence B bonded assemblies (details 17 and 18) on replacement door and pin in place at numbered index holes 872 and 1146 using RE374000002 step pins per table 1, views C and G.

x. Repeat steps t and u for sequence B bonded assemblies (details 17 and 18).

y. Remove sequence B bonded assemblies (details 17 and 18).

z. Position sequence C bonded assembly (detail 13) on replacement door and pin in place at numbered index holes 888 and 1112 using RE374000002 step pins per table 1, views D and G.

aa. Position sequence E bonded assembly (detail 15) on replacement door and pin in place at numbered index holes 907 and 1150 using RE374000002 step pins per table 1, views D and G.

ab. Repeat steps t and u for sequence C bonded assembly (detail 13) and sequence E bonded assembly (detail 15).

ac. Remove sequence C bonded assembly (detail 13) and sequence E bonded assembly (detail 15).

ad. Position sequence D bonded assembly (detail 14) on replacement door and pin in place at numbered index holes 888 and 1112 using RE374000002 step pins per table 1, views D and G.

ae. Position sequence F bonded assembly (detail 16) on replacement door and pin in place at numbered index holes 907 and 1150 using RE374000002 step pins per table 1, views D and G.

af. Repeat steps t and u for sequence D bonded assembly (detail 14) and sequence F bonded assembly (detail 16).

ag. Remove sequence D bonded assembly (detail 14) and sequence F bonded assembly (detail 16).

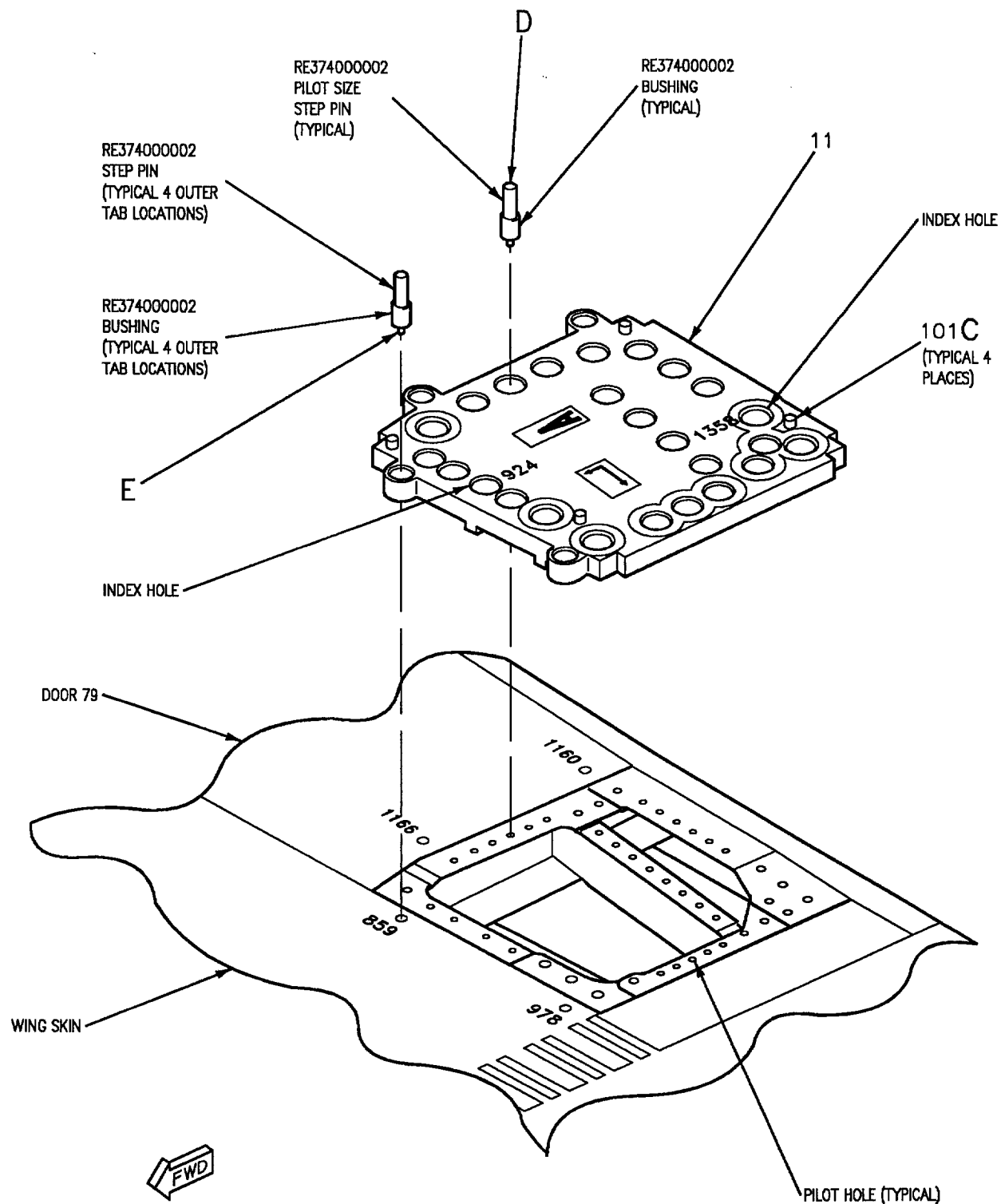
ah. Countersink holes in door per Aircraft Structure Repair Tool Kit (A1-F18AC-SRM-200, WP004 16).

ai. Clean loose material from door and door area.

aj. Install form in place seal on door 79 (A1-F18AC-SRM-500, WP010 00).

ak. Install door 79 (A1-F18AC-LMM-010). Install fasteners wet with sealant (A1-F18AC-SRM-200, WP011 00).

al. Apply finish system and markings (A1-F18AC-SRM-500, WP027 00).



05030301

Figure 3. Installation of Plate Set for Drilling Door 82 and Substructure (Sheet 1)

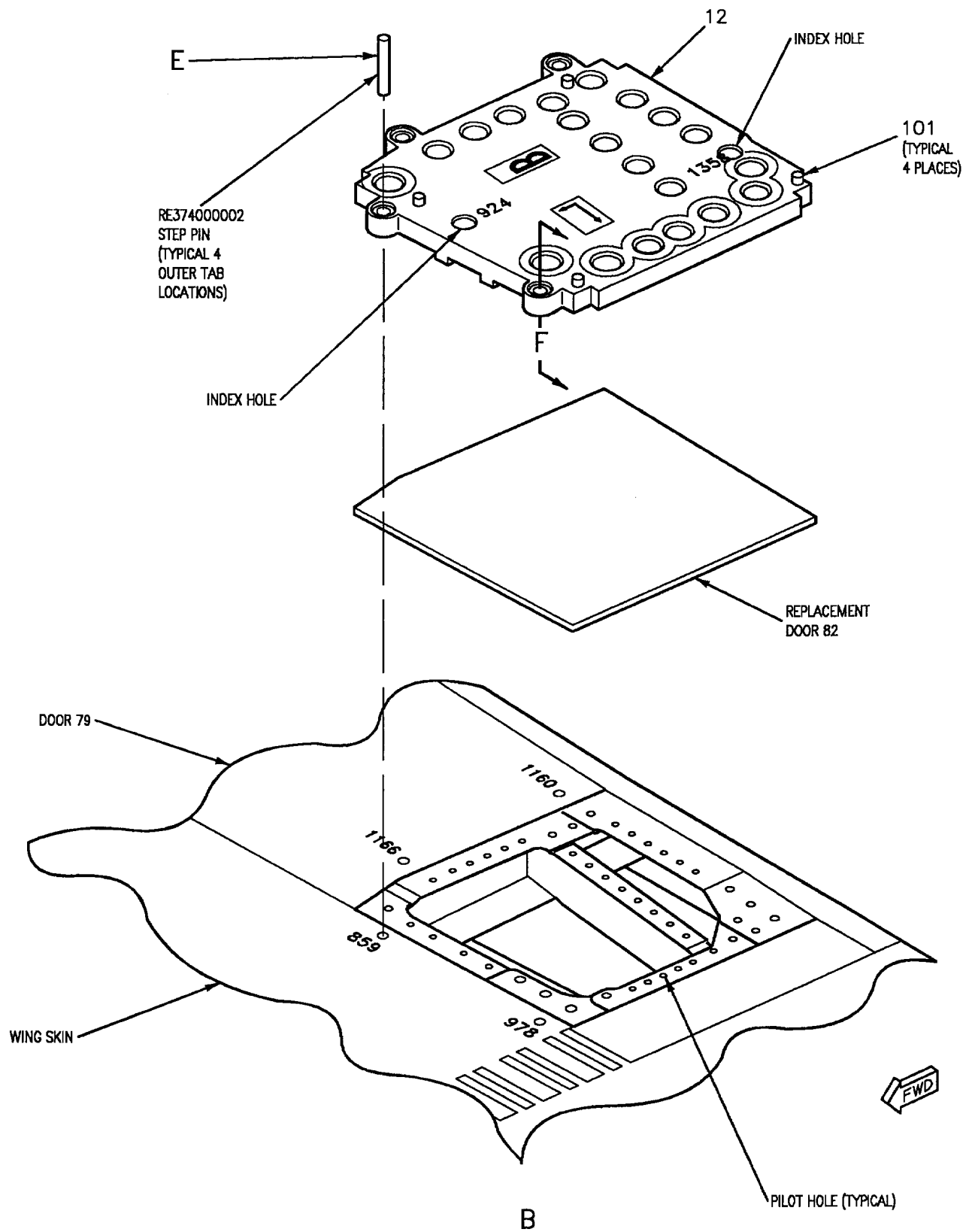
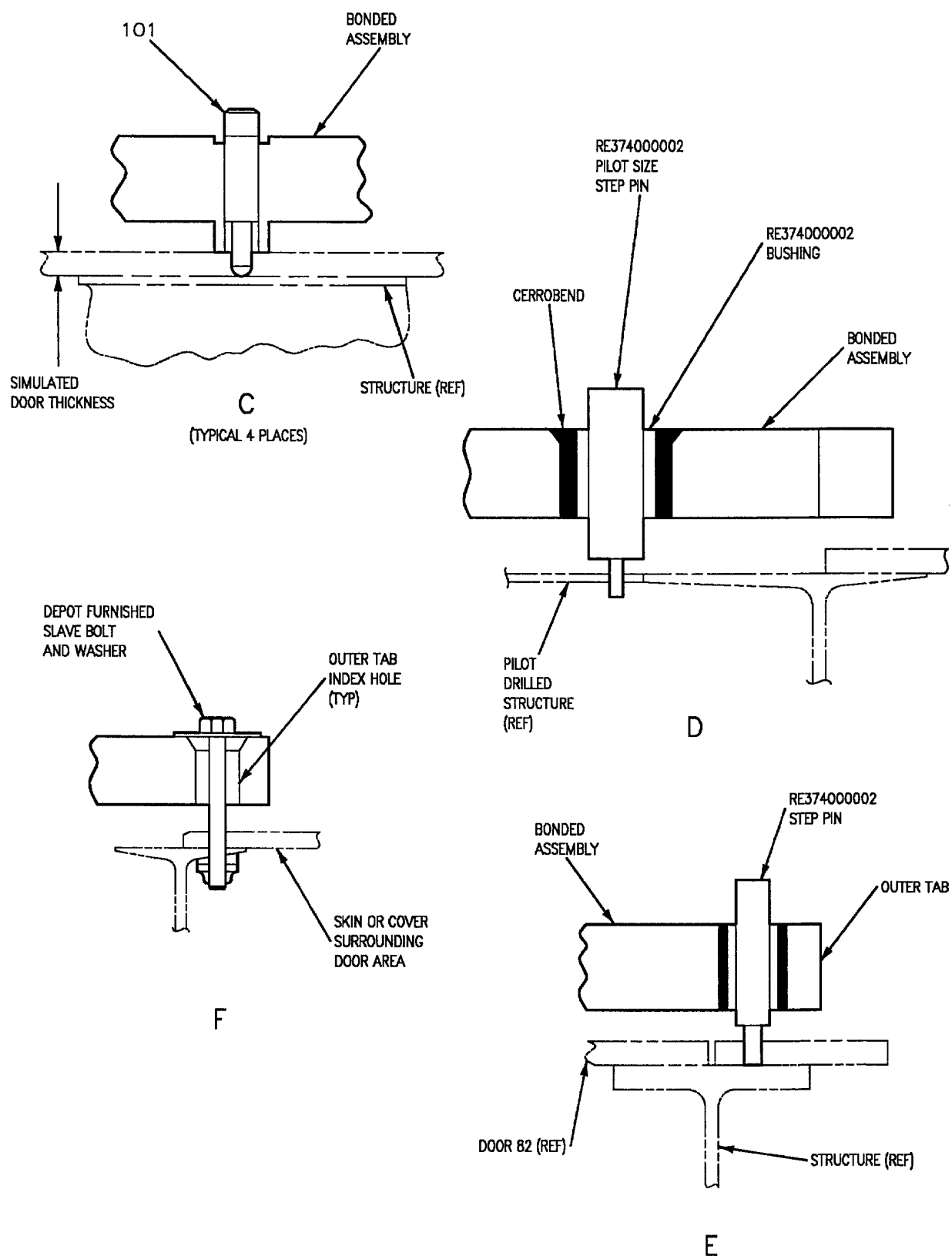


Figure 3. Installation of Plate Set for Drilling Door 82 and Substructure (Sheet 2)

05030302



05030303

Figure 3. Installation of Plate Set for Drilling Door 82 and Substructure (Sheet 3)

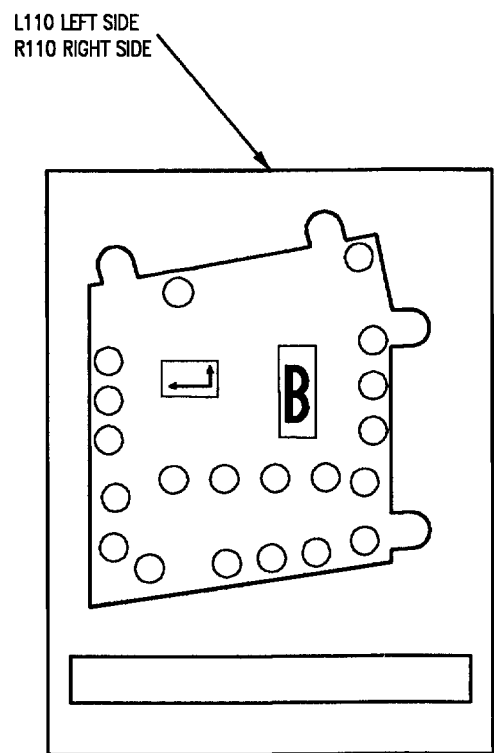
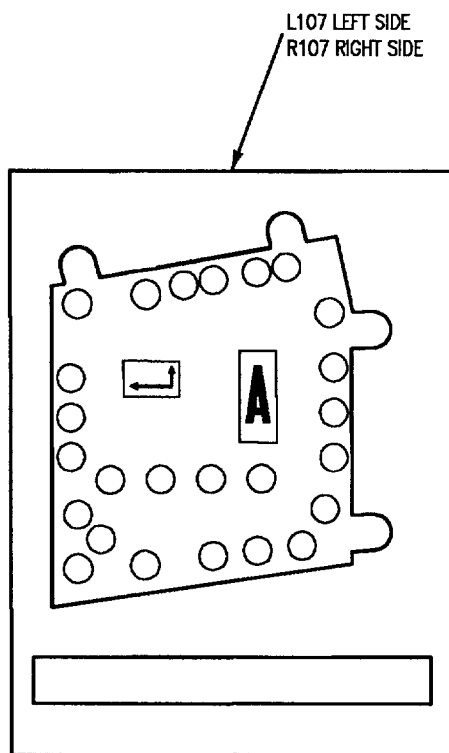
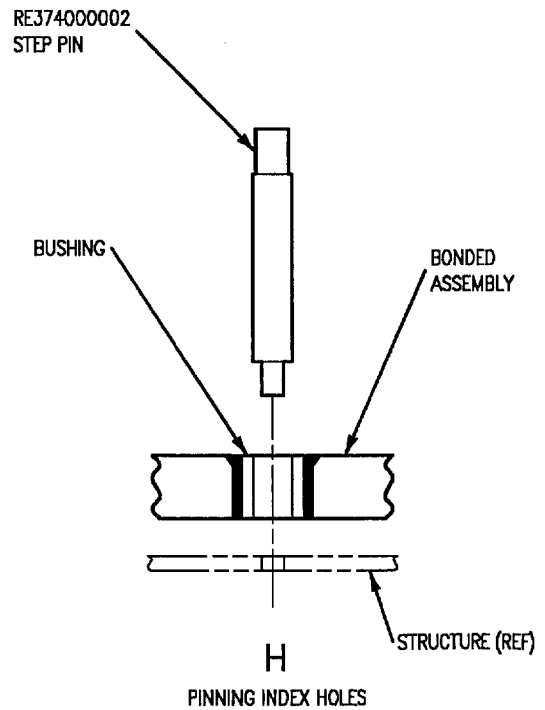
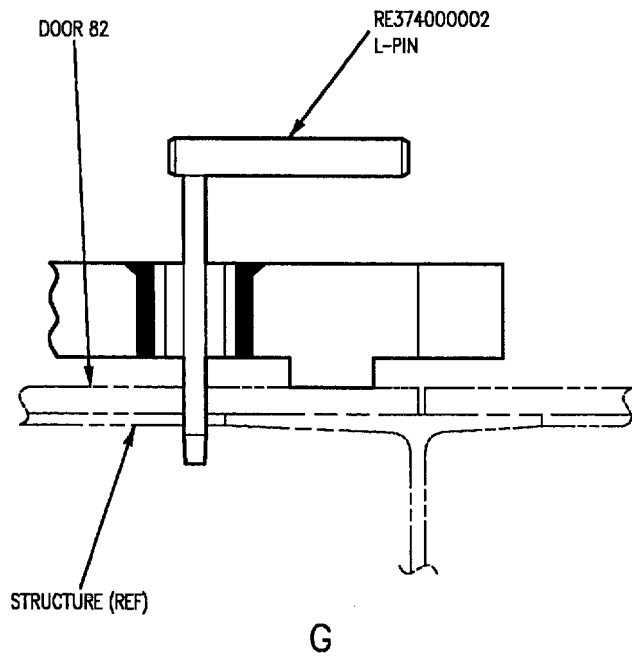


Figure 3. Installation of Plate Set for Drilling Door 82 and Substructure (Sheet 4)

TABLE 1. DETAILS OF RE374000002 USED FOR INDEX HOLES				
NOTE	HOLE NO.	HOLE DIA.	STEP PIN DETAIL NO.	POTTED BUSHING
1	859	0.3125	119	121
2	924	0.3125	119	121
3	924	0.322	155	121
1	978	0.4375	120	121
1	1160	0.3125	119	121
1	1166	0.3125	119	121
2	1358	0.3750	157	121
3	1358	0.385	156	121

1 INDEX HOLES IN SKIN OR STRUCTURE NEXT TO DOOR AREA.

2 EFFECTIVITY: 161353 THRU 161987.

3 EFFECTIVITY: 162394 AND UP.

TABLE 2. DETAILS OF RE374000002 USED FOR PINNING DRILLED HOLES			
HOLE SIZE	NOMINAL	FIRST OVERSIZE	SECOND OVERSIZE
0.2500	146	147	148
0.3125	149	150	151
0.3750	152	153	154
0.4375	158	159	160

Figure 3. Installation of Plate Set for Drilling Door 82 and Substructure (Sheet 5)

Detail No.	Name	Function
11	Sequence A Bonded Assembly	Used to locate and drill hole pattern in door and structure.
12	Sequence B Bonded Assembly	Used to locate and drill hole pattern in door and structure.
101	Skin Thickness Adapter	Simulates thickness of door on structure.
L107, R107	Hole Board	Sequence A reference board for effectivity: 161353 thru 161987.
L110, R110	Hole Board	Sequence B reference board for effectivity: 161353 thru 161987.

Figure 3. Installation of Plate Set for Drilling Door 82 and Substructure (Sheet 6)

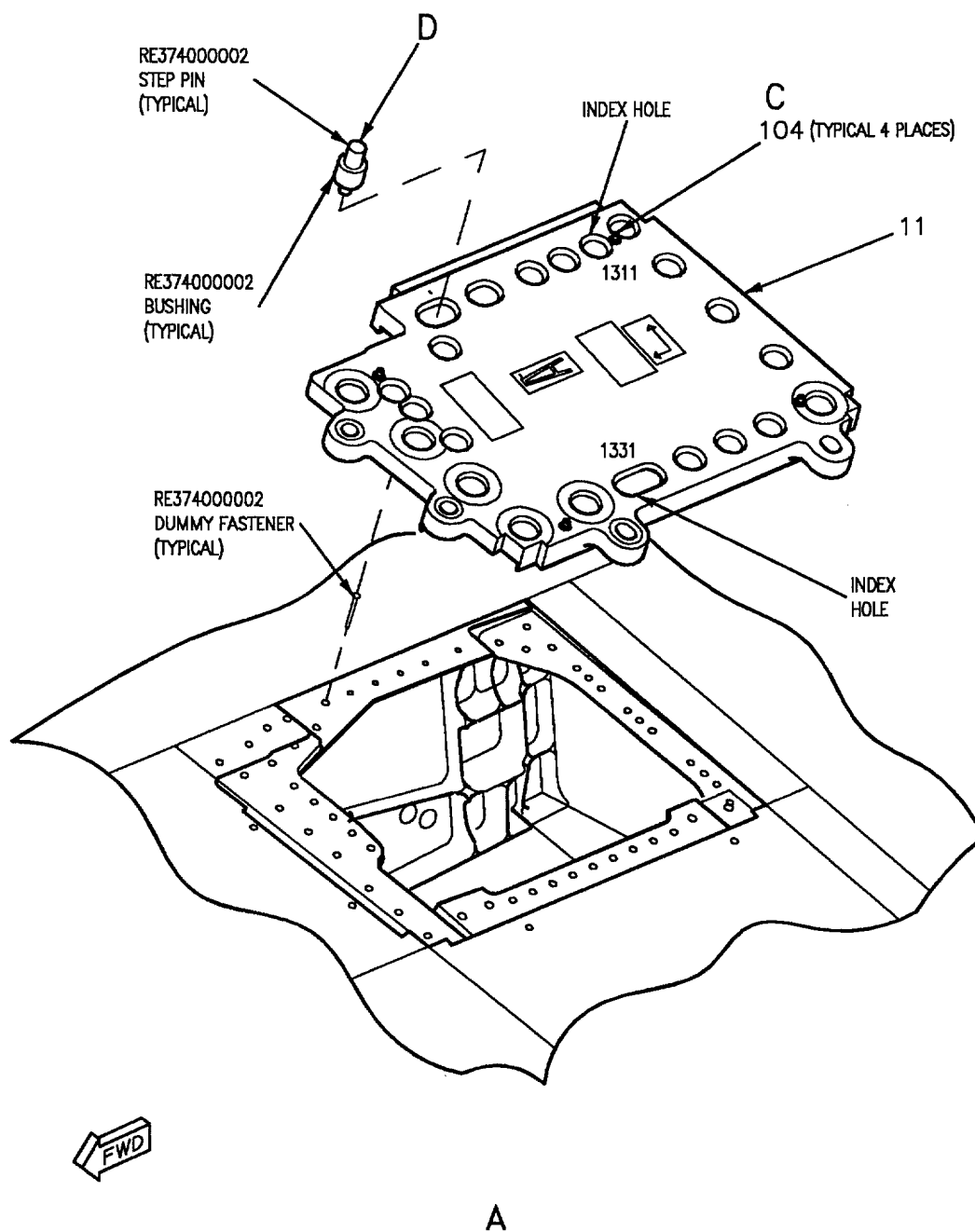


Figure 4. Installation of Plate Set for Drilling Door 78 (Sheet 1)

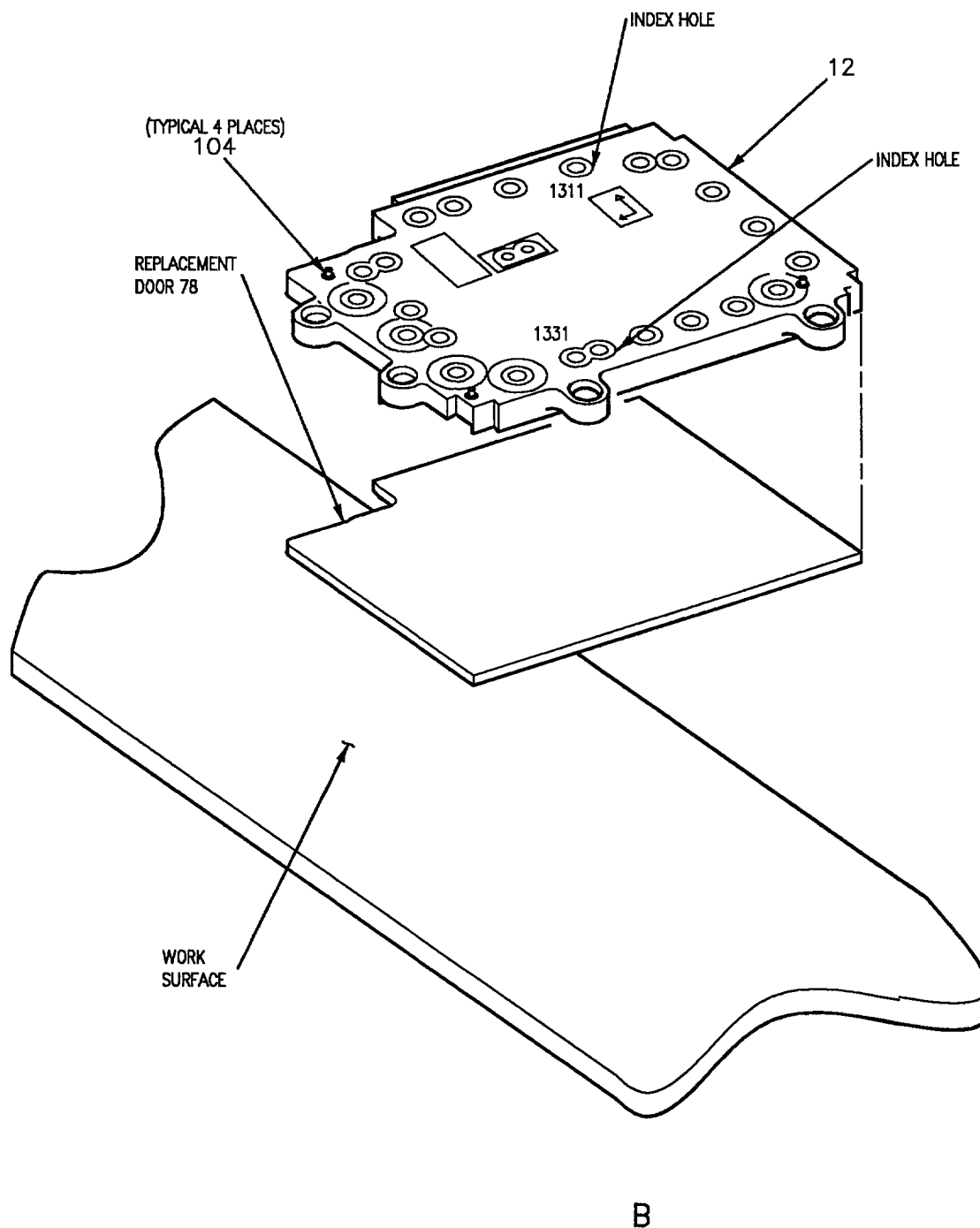


Figure 4. Installation of Plate Set for Drilling Door 78 (Sheet 2)

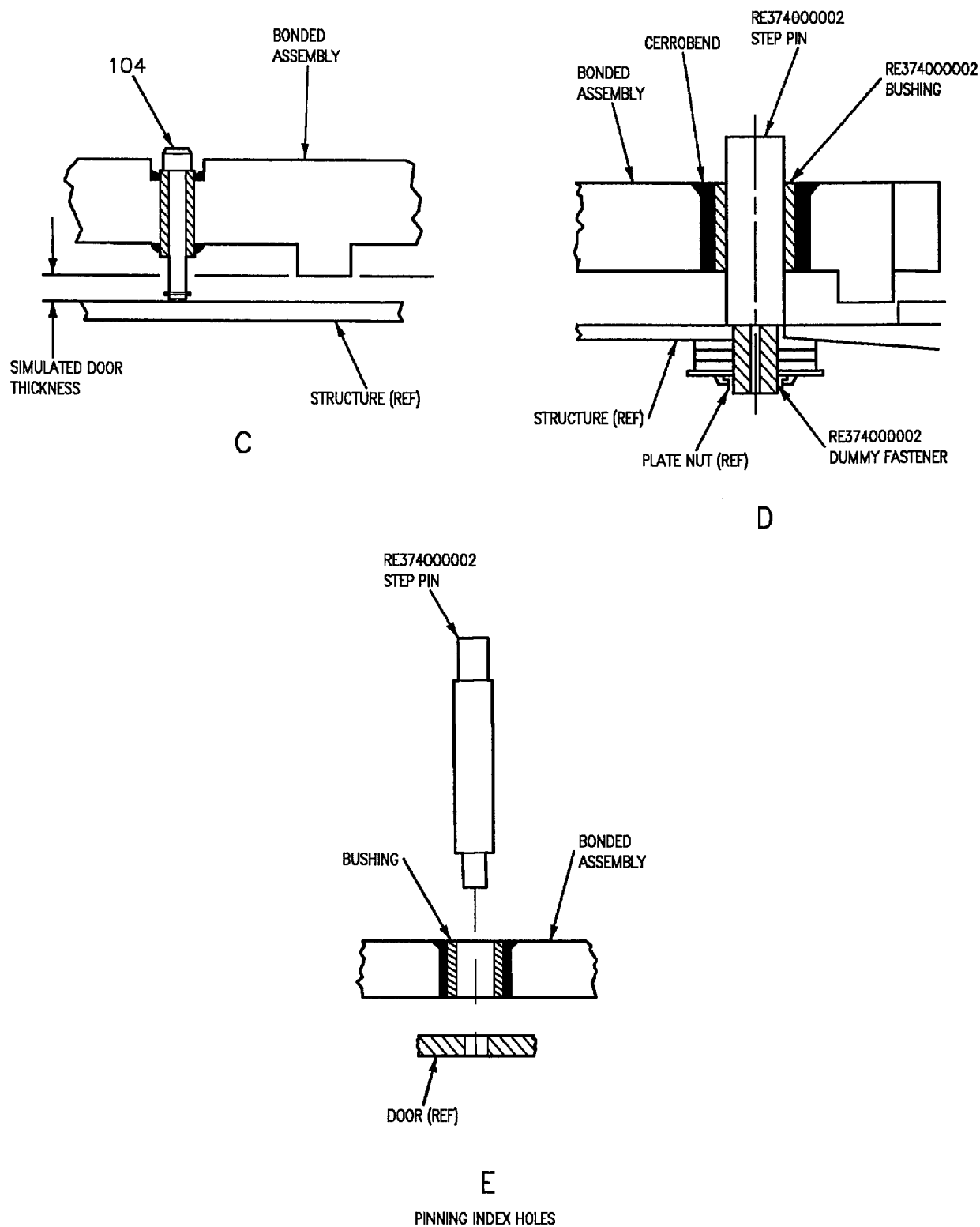
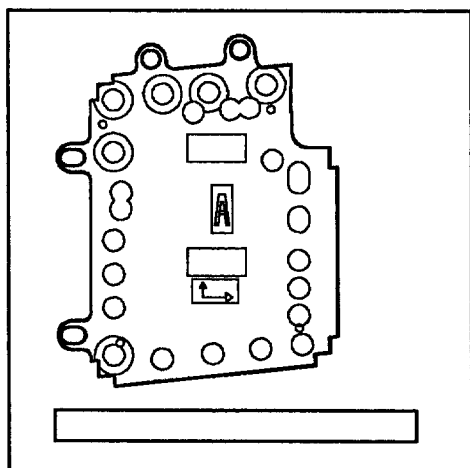
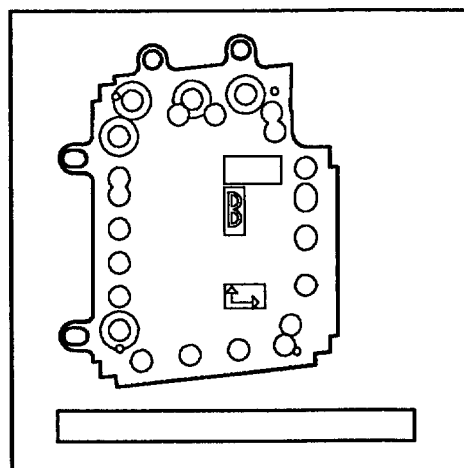


Figure 4. Installation of Plate Set for Drilling Door 78 (Sheet 3)



L105 LEFT SIDE
R105 RIGHT SIDE
L115 LEFT SIDE
R115 RIGHT SIDE



L109 LEFT SIDE
R109 RIGHT SIDE
L119 LEFT SIDE
R119 RIGHT SIDE

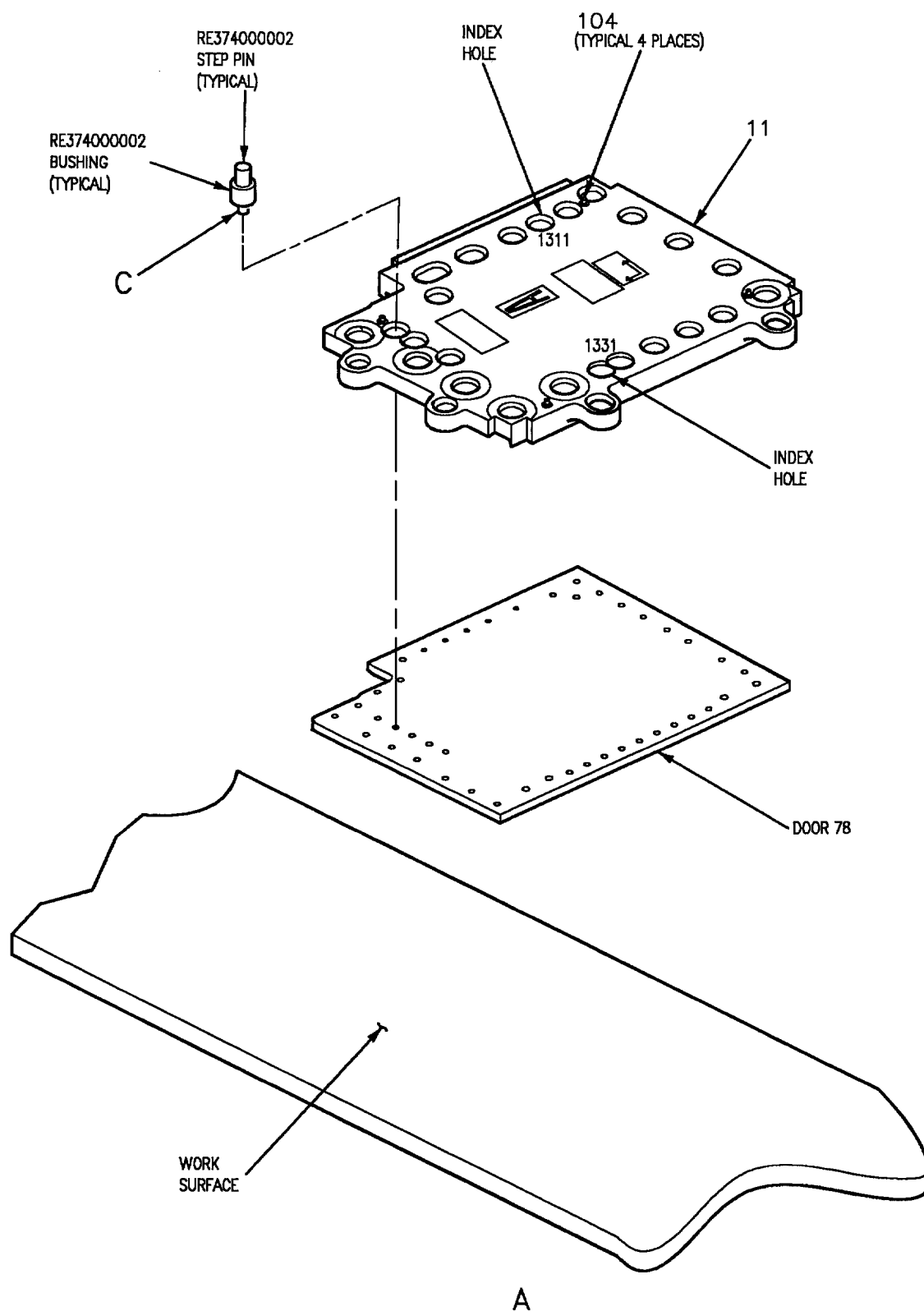
TABLE 1. DETAILS OF RE374000002 USED FOR INDEX HOLES				
NOTE	HOLE NO.	HOLE DIA	STEP PIN DETAIL NO.	POTTED BUSHING
1	14	0.3750	157	121
1	52	0.3750	157	121
1	1088	0.3120	119	121
1	1092	0.3120	119	121
2	1311	0.3125	119	121
3	1311	0.3220	155	121
2	1331	0.3125	119	121
3	1331	0.3220	155	121

- 1 INDEX HOLES IN SKIN OR STRUCTURE NEXT TO DOOR AREA.
 2 EFFECTIVITY: 161353 THRU 161987.
 3 EFFECTIVITY: 162394 AND UP.

Figure 4. Installation of Plate Set for Drilling Door 78 (Sheet 4)

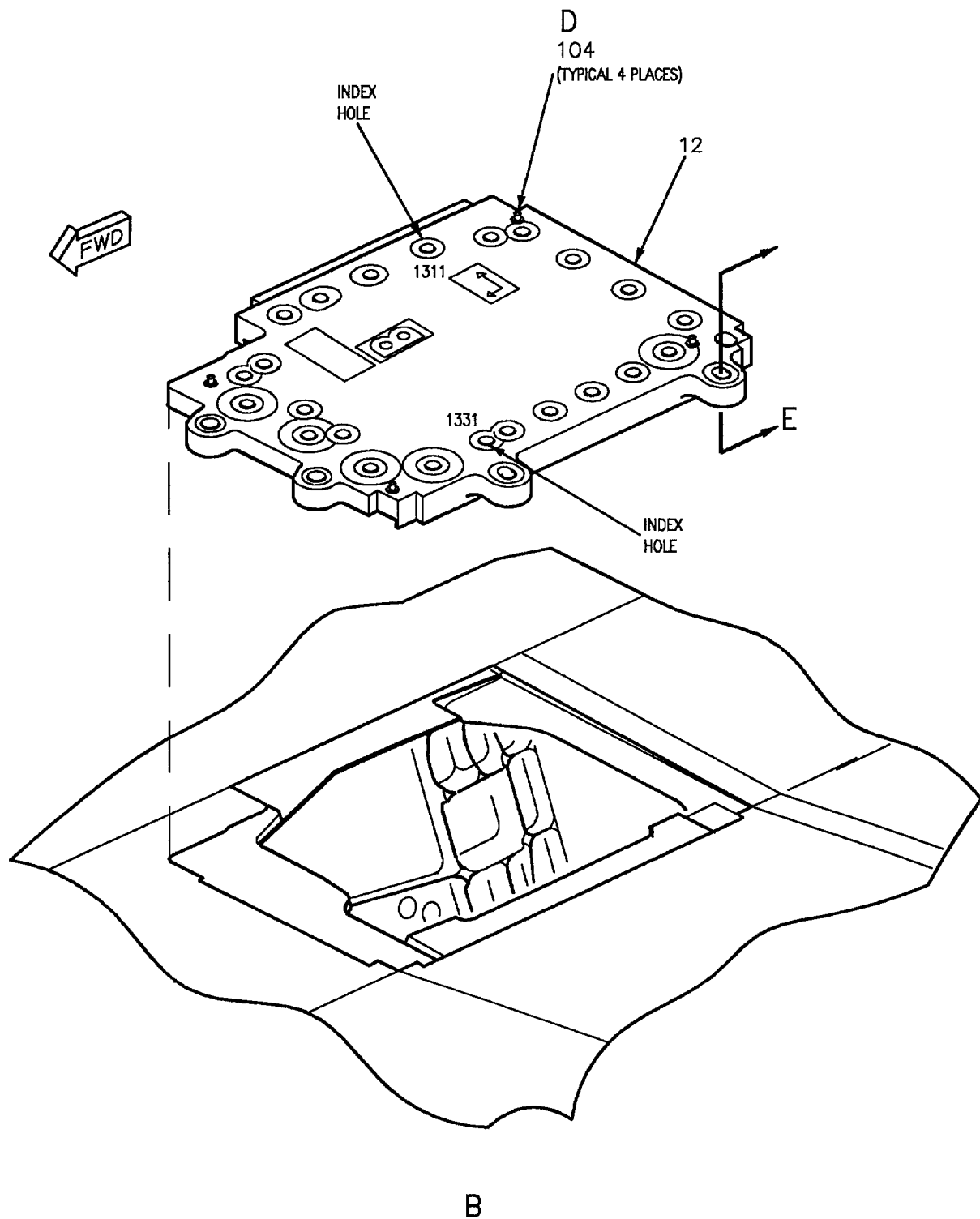
Detail No.	Name	Function
11	Sequence A Bonded Assembly	Used to locate and drill hole pattern in door and structure.
12	Sequence B Bonded Assembly	Used to locate and drill hole pattern in door and structure.
104	Skin Thickness Adapter	Simulates thickness of door on structure.
L105, R105	Hole Board	Sequence A reference board for effectivity: 161979 thru 161987.
L109, R109	Hole Board	Sequence B reference board for effectivity: 161979 thru 161987.
L115, R115	Hole Board	Sequence A reference board for effectivity: 161353 thru 161978.
L119, R119	Hole Board	Sequence B reference board for effectivity: 161353 thru 161978.

Figure 4. Installation of Plate Set for Drilling Door 78 (Sheet 5)



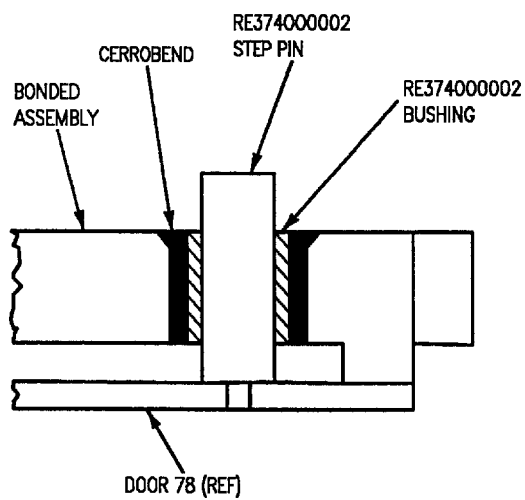
05030501

Figure 5. Installation of Plate Set for Drilling Door 78 Substructure (Sheet 1)

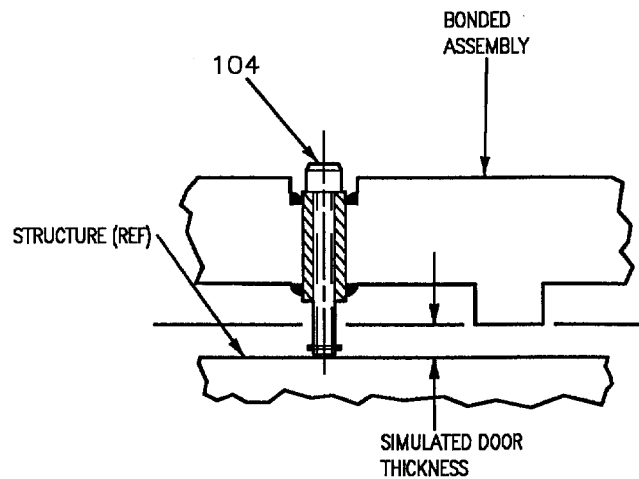


05030502

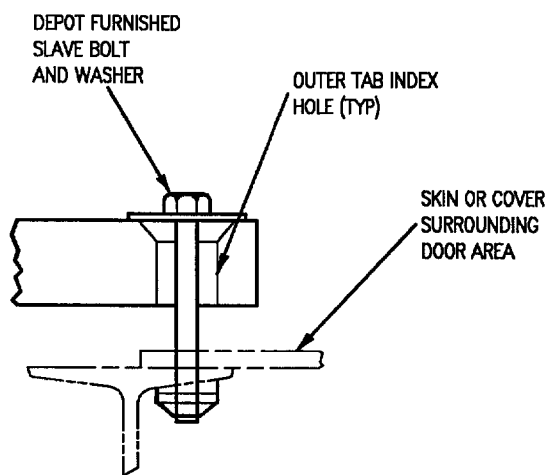
Figure 5. Installation of Plate Set for Drilling Door 78 Substructure (Sheet 2)



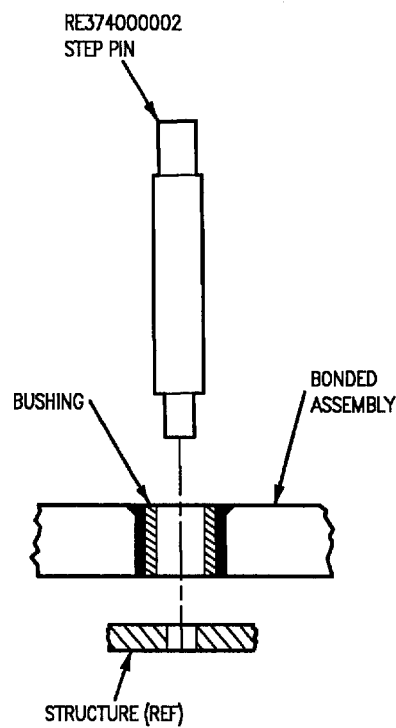
C



D



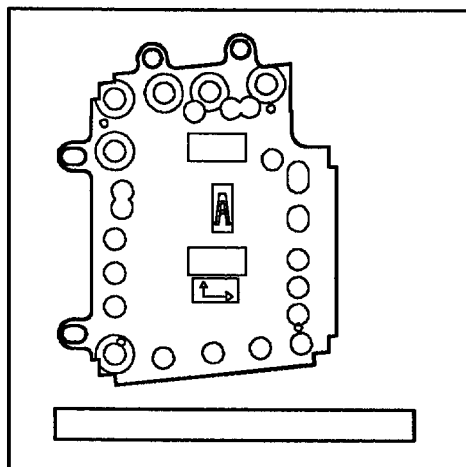
E



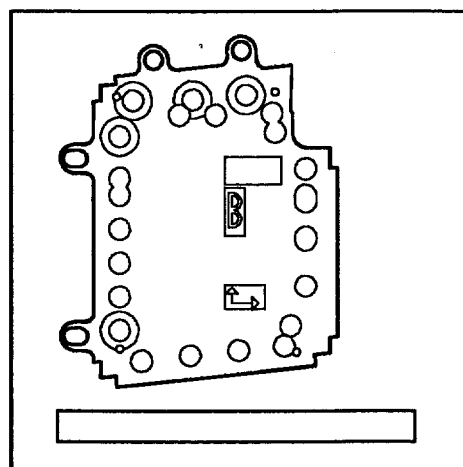
F

05030503

Figure 5. Installation of Plate Set for Drilling Door 78 Substructure (Sheet 3)



L106 LEFT SIDE
R106 RIGHT SIDE
L108 LEFT SIDE
R108 RIGHT SIDE
L116 LEFT SIDE
R116 RIGHT SIDE



L110 LEFT SIDE
R110 RIGHT SIDE
L112 LEFT SIDE
R112 RIGHT SIDE
L120 LEFT SIDE
R120 RIGHT SIDE

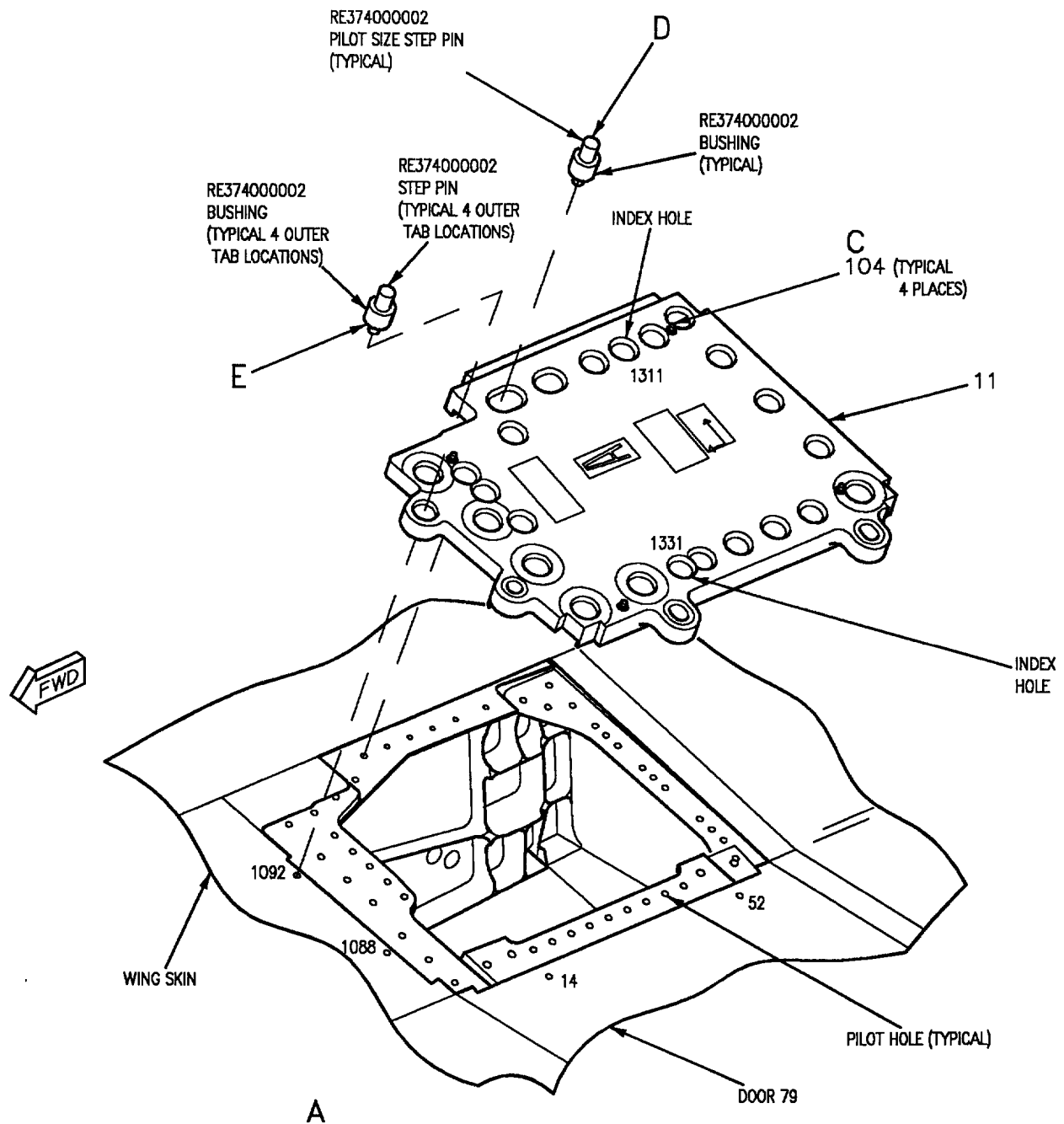
TABLE 1. DETAILS OF RE374000002 USED FOR INDEX HOLES				
NOTE	HOLE NO.	HOLE DIA	STEP PIN DETAIL NO.	POTTED BUSHING
1	14	0.3750	157	121
1	52	0.3750	157	121
1	1088	0.3120	119	121
1	1092	0.3120	119	121
2	1311	0.3125	119	121
3	1311	0.3220	155	121
2	1331	0.3125	119	121
3	1331	0.3220	155	121

- 1 INDEX HOLES IN SKIN OR STRUCTURE NEXT TO DOOR AREA.
2 EFFECTIVITY: 161353 THRU 161987.
3 EFFECTIVITY: 162394 AND UP.

Figure 5. Installation of Plate Set for Drilling Door 78 Substructure (Sheet 4)

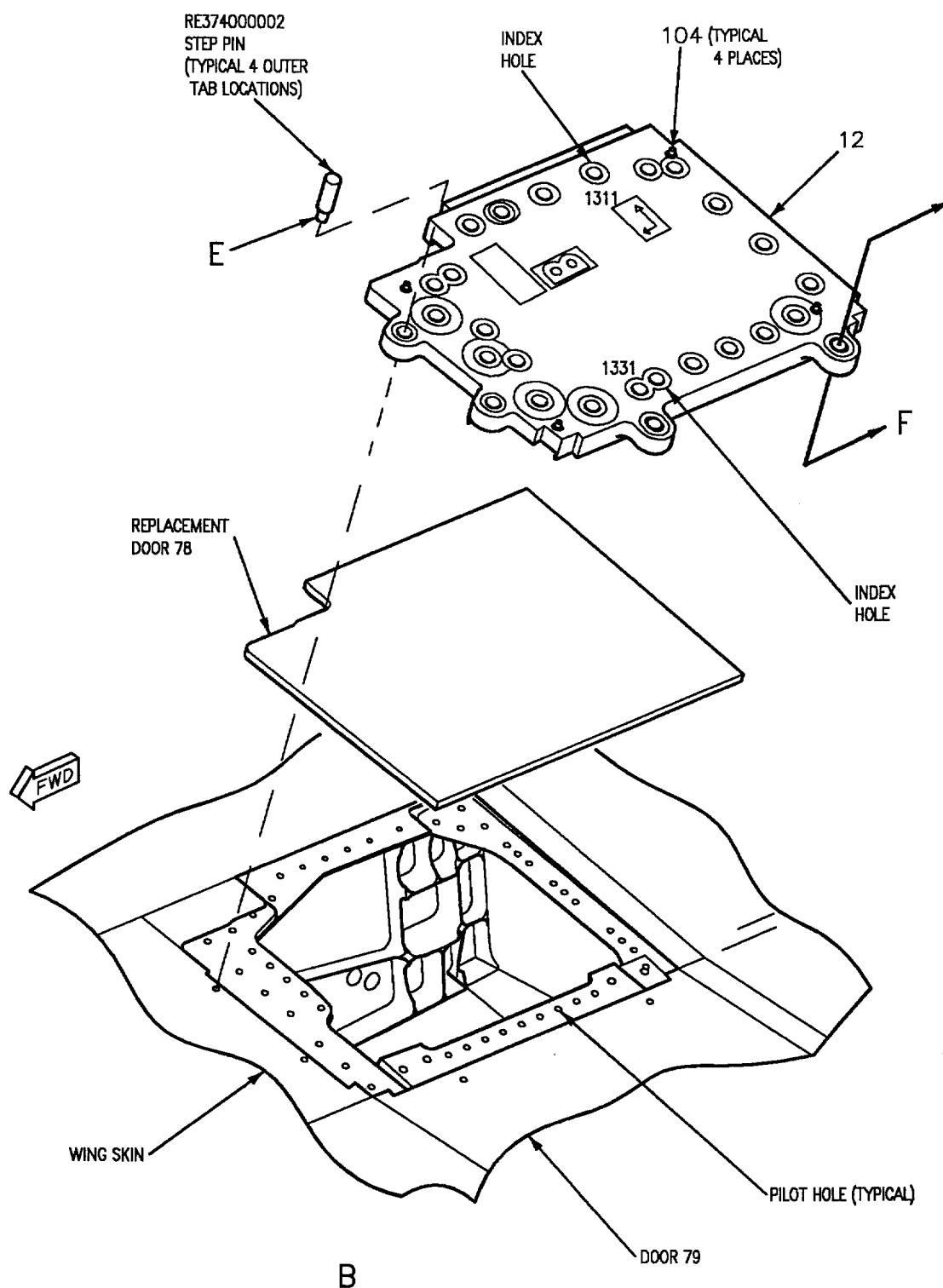
Detail No.	Name	Function
11	Sequence A Bonded Assembly	Used to locate and drill hole pattern in door and structure.
12	Sequence B Bonded Assembly	Used to locate and drill hole pattern in door and structure.
104	Skin Thickness Adapter	Simulates thickness of door on structure.
L106, R106	Hole Board	Sequence A reference board for effectivity: 161979 thru 161987.
L108, R108	Hole Board	Sequence A reference board for effectivity: 162394 and Up.
L110, R110	Hole Board	Sequence B reference board for effectivity: 161979 thru 161987.
L112, R112	Hole Board	Sequence B reference board for effectivity: 162394 and Up.
L116, R116	Hole Board	Sequence A reference board for effectivity: 161353 thru 161978.
L120, R120	Hole Board	Sequence B reference board for effectivity: 161353 thru 161978.

Figure 5. Installation of Plate Set for Drilling Door 78 Substructure (Sheet 5)



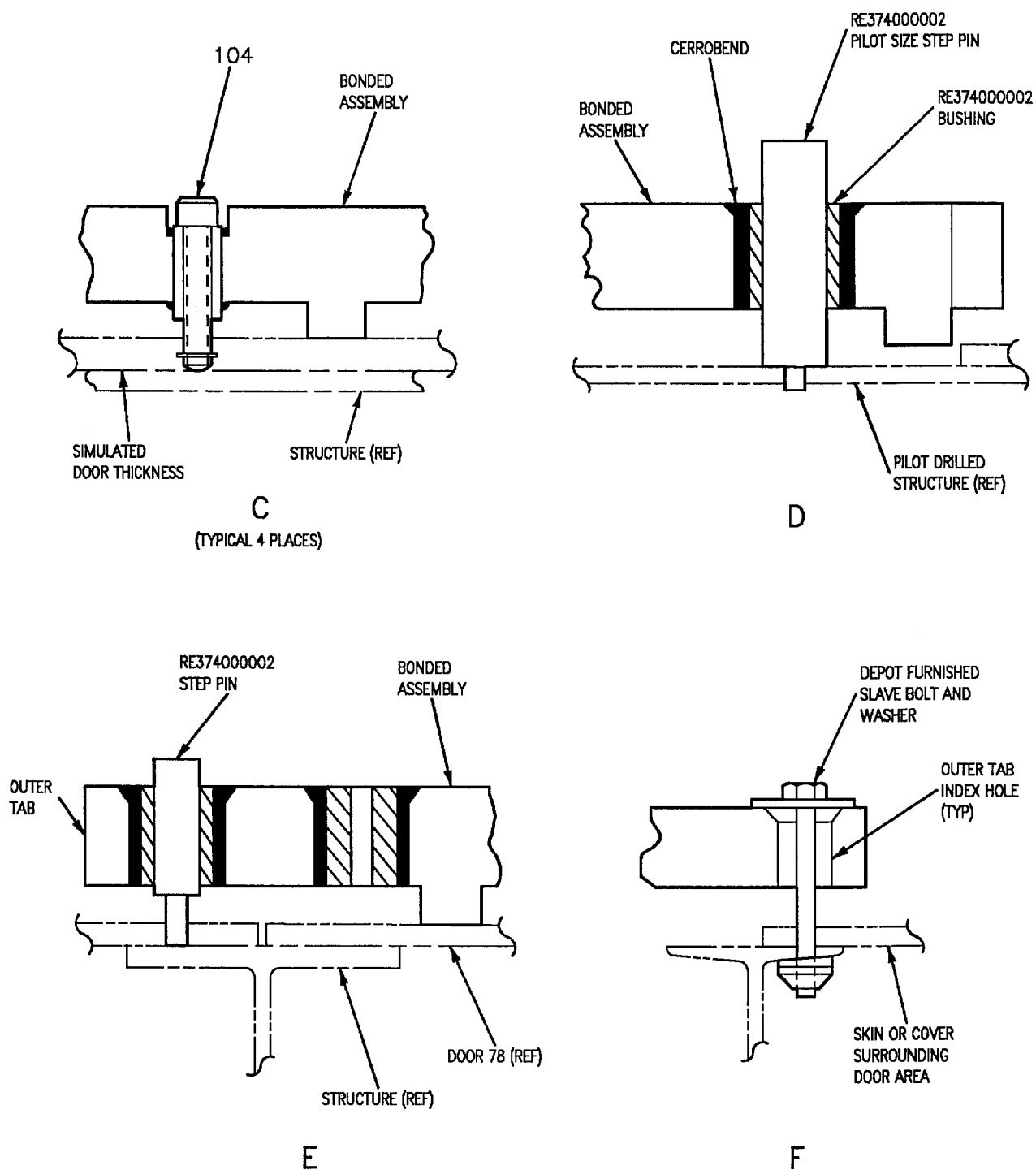
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Figure 6. Installation of Plate Set for Drilling Door 78 and Substructure (Sheet 1)



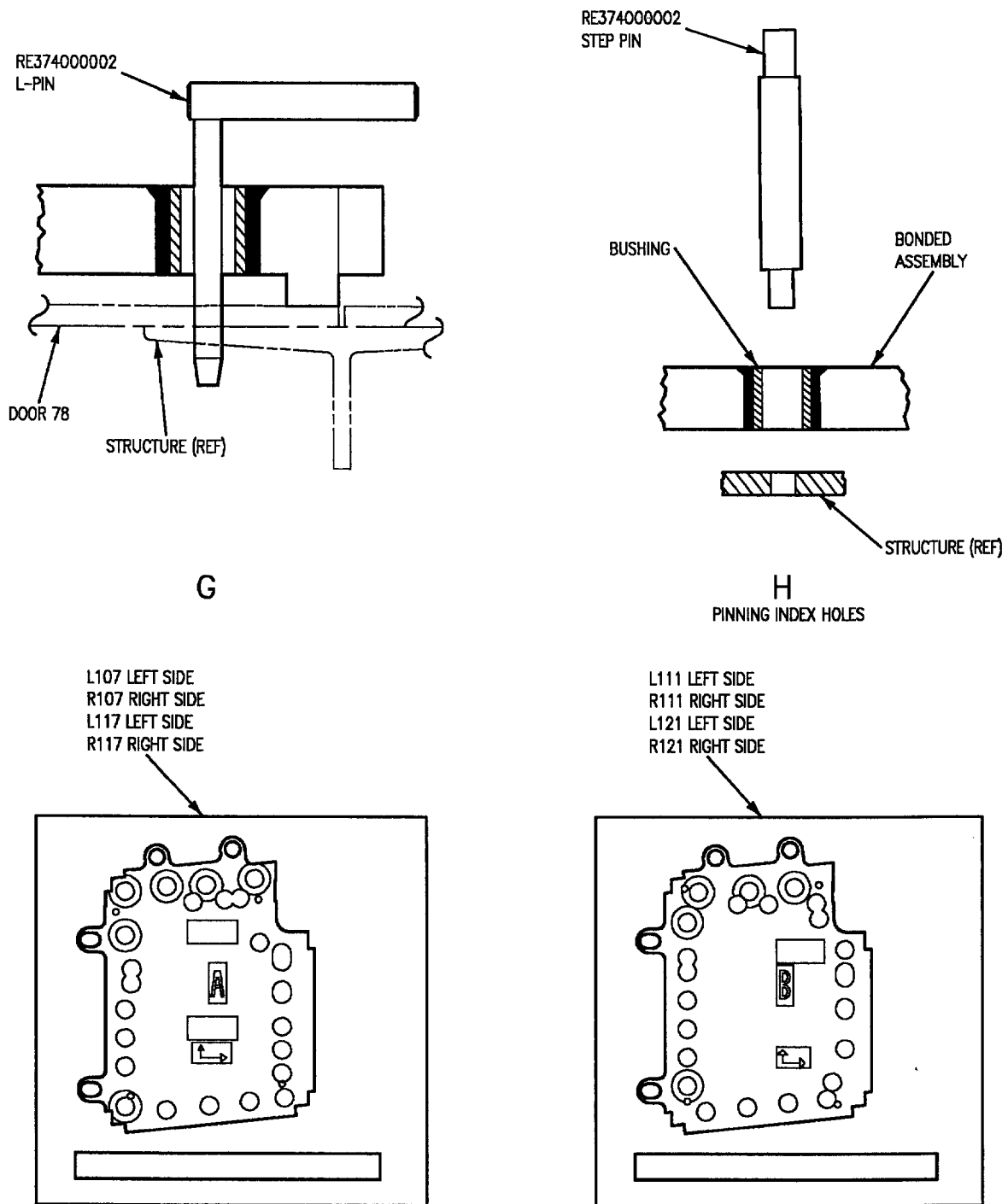
05030602

Figure 6. Installation of Plate Set for Drilling Door 78 and Substructure (Sheet 2)



05030603

Figure 6. Installation of Plate Set for Drilling Door 78 and Substructure (Sheet 3)



05030604

Figure 6. Installation of Plate Set for Drilling Door 78 and Substructure (Sheet 4)

TABLE 1. DETAILS OF RE374000002 USED FOR INDEX HOLES				
NOTE	HOLE NO.	HOLE DIA	STEP PIN DETAIL NO.	POTTED BUSHING
1	14	0.3750	157	121
1	52	0.3750	157	121
1	1088	0.3120	119	121
1	1092	0.3120	119	121
2	1311	0.3125	119	121
3	1311	0.3220	155	121
2	1331	0.3125	119	121
3	1331	0.3220	155	121

- 1 INDEX HOLES IN SKIN OR STRUCTURE NEXT TO DOOR AREA.
 2 EFFECTIVITY: 161353 THRU 161987.
 3 EFFECTIVITY: 162394 AND UP.

TABLE 2. DETAILS OF RE374000002 USED FOR PINNING DRILLED HOLES			
HOLE SIZE	DETAIL NUMBER		
	NOMINAL	FIRST OVERSIZE	SECOND OVERSIZE
0.2500	146	147	148
0.3125	149	150	151
0.3750	152	153	154
0.4375	158	159	160

Figure 6. Installation of Plate Set for Drilling Door 78 and Substructure (Sheet 5)

Detail No.	Name	Function
11	Sequence A Bonded Assembly	Used to locate and drill hole pattern in door and structure.
12	Sequence B Bonded Assembly	Used to locate and drill hole pattern in door and structure.
104	Skin Thickness Adapter	Simulates thickness of door on structure.
L107, R107	Hole Board	Sequence A reference board for effectivity: 161979 thru 161987.
L111, R111	Hole Board	Sequence B reference board for effectivity: 161979 thru 161987.
L117, R117	Hole Board	Sequence A reference board for effectivity: 161353 thru 161978.
L121, R121	Hole Board	Sequence B reference board for effectivity: 161353 thru 161978.

Figure 6. Installation of Plate Set for Drilling Door 78 and Substructure (Sheet 6)

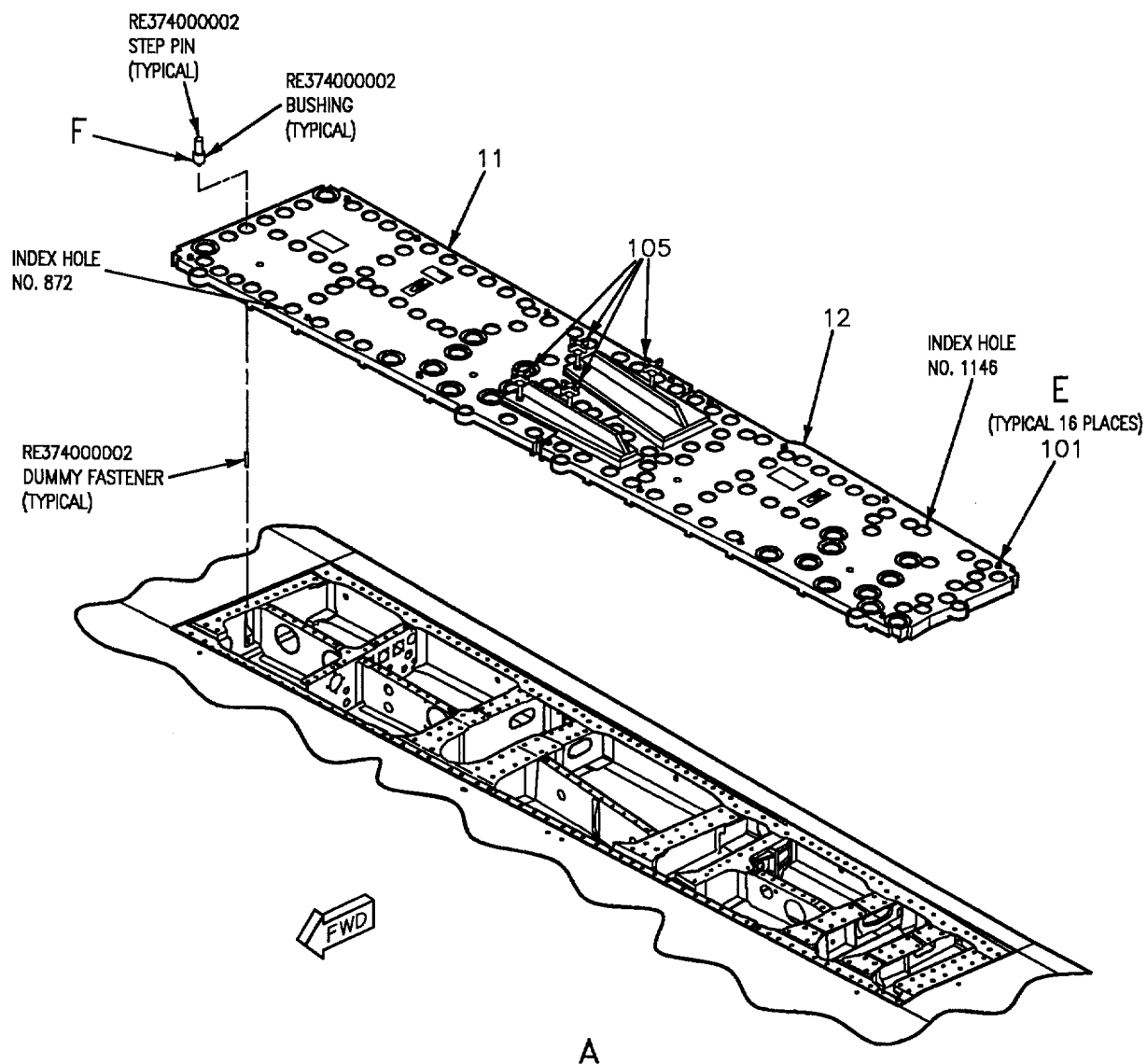


Figure 7. Installation of Plate Set for Drilling Door 79 (Sheet 1)

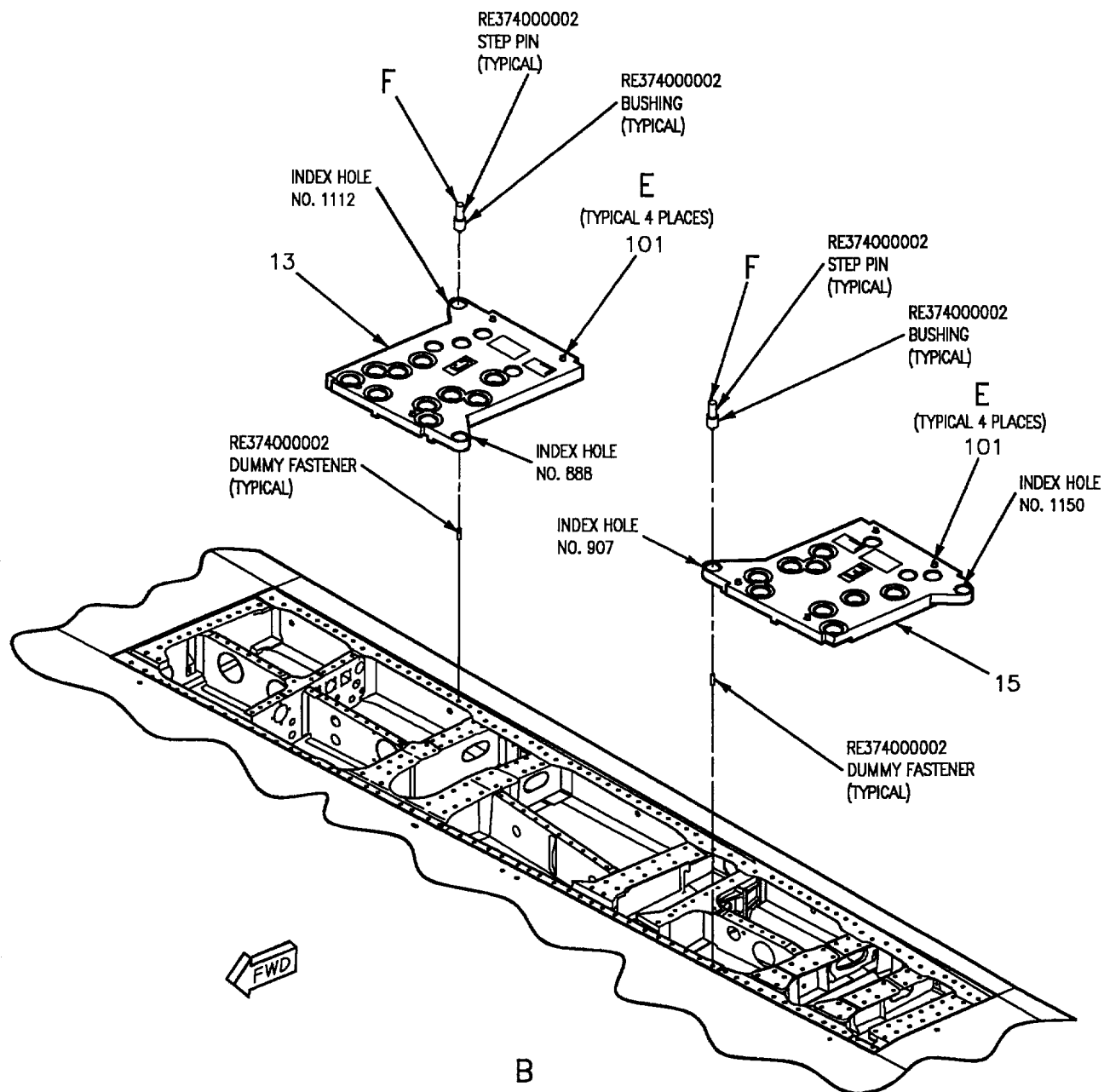


Figure 7. Installation of Plate Set for Drilling Door 79 (Sheet 2)

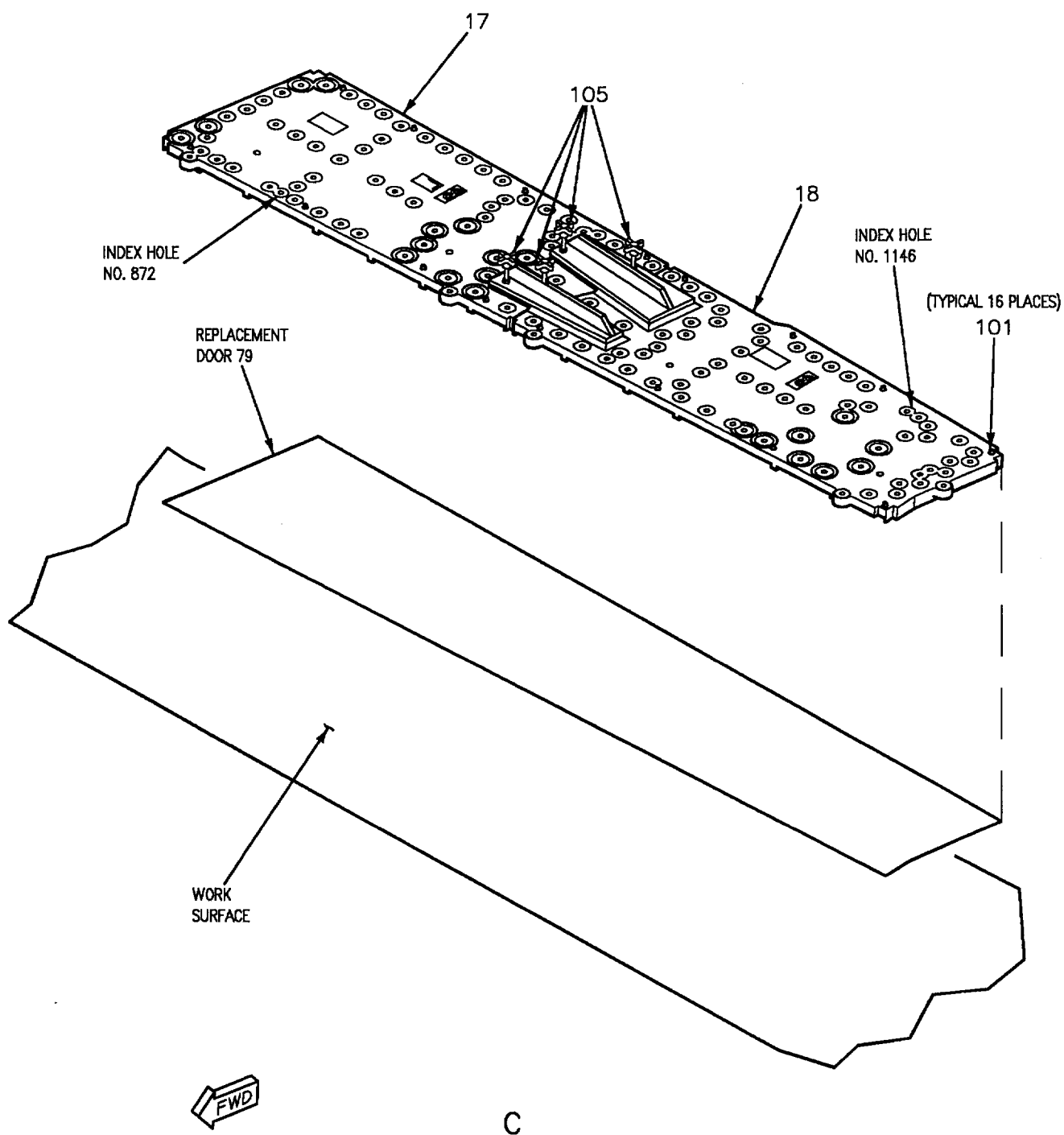


Figure 7. Installation of Plate Set for Drilling Door 79 (Sheet 3)

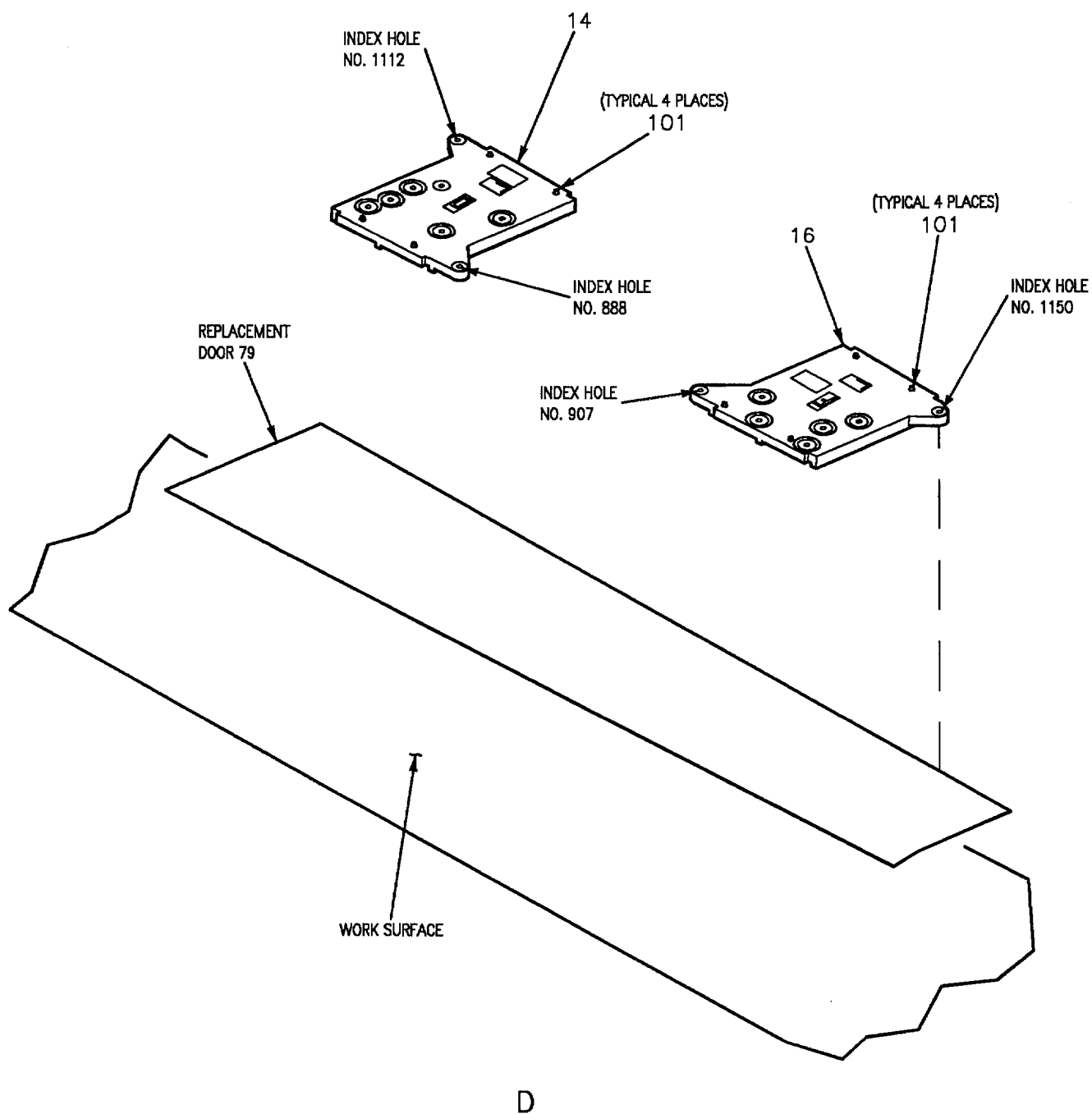


Figure 7. Installation of Plate Set for Drilling Door 79 (Sheet 4)

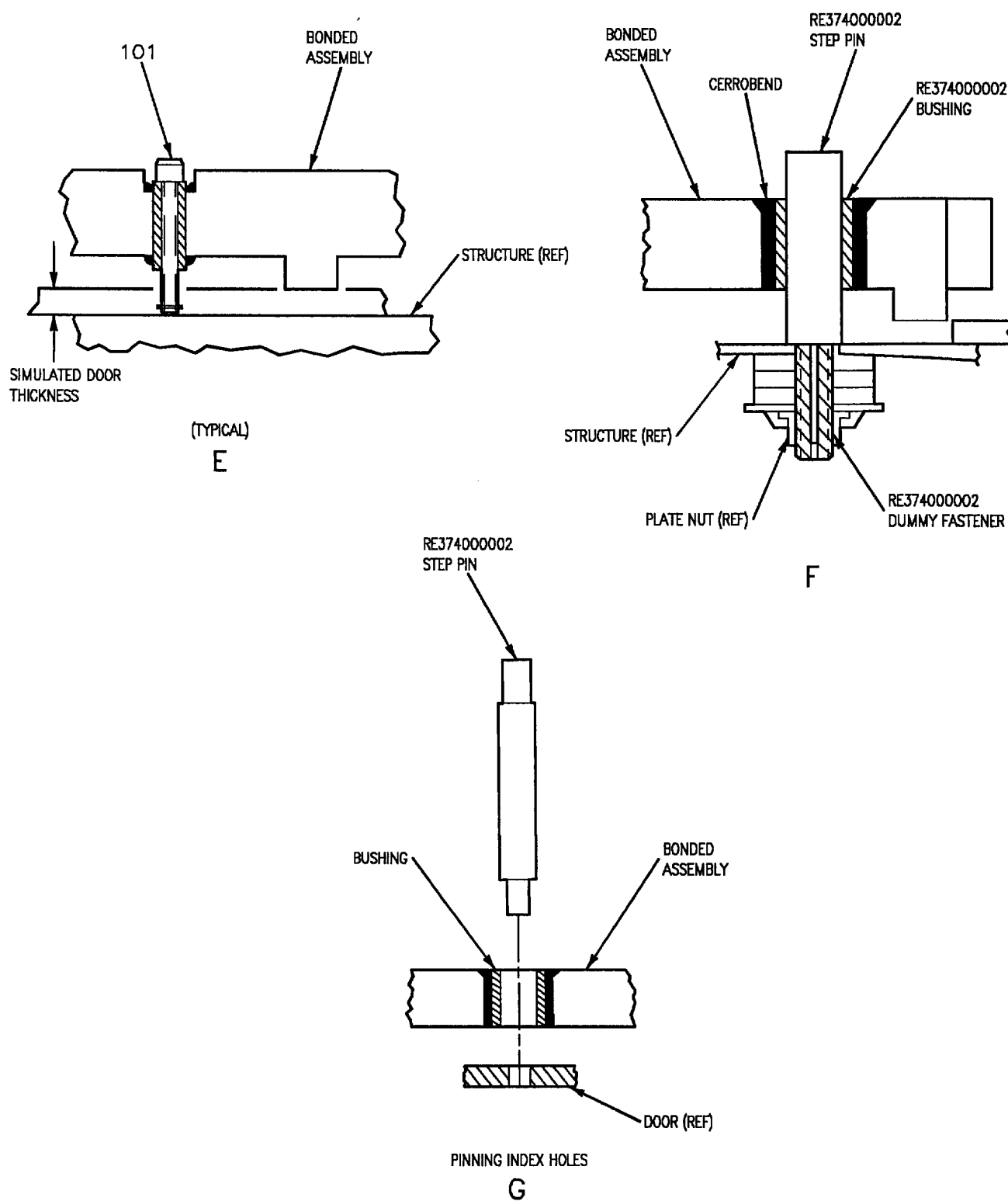


Figure 7. Installation of Plate Set for Drilling Door 79 (Sheet 5)

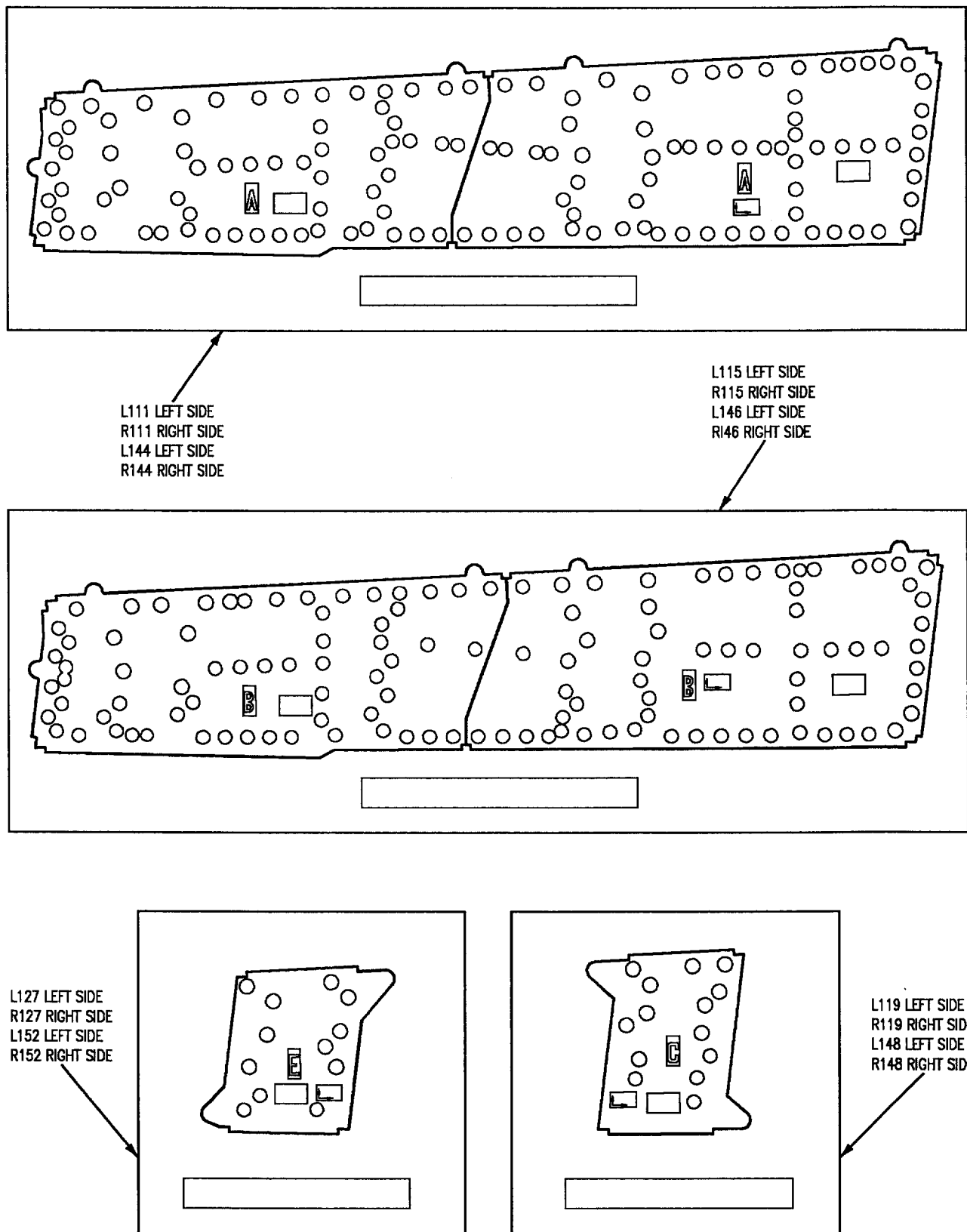
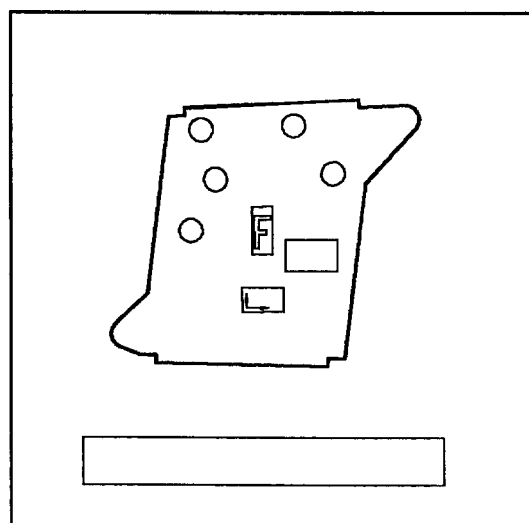
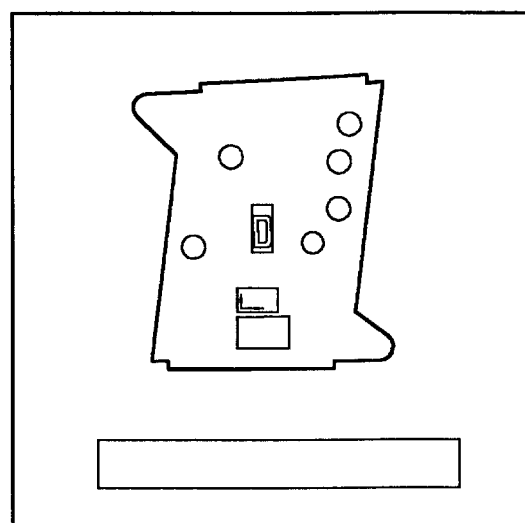


Figure 7. Installation of Plate Set for Drilling Door 79 (Sheet 6)



L131 LEFT SIDE
R131 RIGHT SIDE
L154 LEFT SIDE
R154 RIGHT SIDE



L123 LEFT SIDE
R123 RIGHT SIDE
L150 LEFT SIDE
R150 RIGHT SIDE

TABLE 1. DETAILS OF RE374000002 USED FOR INDEX HOLES				
NOTE	HOLE NO.	HOLE DIA	STEP PIN DETAIL NO.	POTTED BUSHING
1	799	0.2500	126	121
1	822	0.3125	119	121
1	831	0.2500	126	121
1	855	0.3125	119	121
	872	0.2500	126	121
	888	0.3125	119	121
	907	0.3125	119	121
	1112	0.2500	126	121
	1146	0.3125	119	121
	1150	0.2500	126	121
1	1371	0.2500	126	121

1 INDEX HOLES IN SKIN OR STRUCTURE NEXT TO DOOR AREA.

Figure 7. Installation of Plate Set for Drilling Door 79 (Sheet 7)

Detail No.	Name	Function
11	Sequence A Bonded Assembly-Inboard Half	Used to locate and drill hole pattern in door and structure.
12	Sequence A Bonded Assembly-Outboard Half	Used to locate and drill hole pattern in door and structure.
13	Sequence C Bonded Assembly	Used to locate and drill hole pattern in door and structure.
14	Sequence D Bonded Assembly	Used to locate and drill hole pattern in door and structure.
15	Sequence E Bonded Assembly	Used to locate and drill hole pattern in door and structure.
16	Sequence F Bonded Assembly	Used to locate and drill hole pattern in door and structure.
17	Sequence B Bonded Assembly-Inboard Half	Used to locate and drill hole pattern in door and structure.
18	Sequence B Bonded Assembly-Outboard Half	Used to locate and drill hole pattern in door and structure.
101	Skin Thickness Adapter	Simulates thickness of door on structure.
105	Hand Knob	Secures inboard half of bonded assembly to outboard half of bonded assembly.
L111, R111	Hole Board	Sequence A reference board for effectivity: 161353 thru 161987.
L115, R115	Hole Board	Sequence B reference board for effectivity: 161353 thru 161987.
L119, R119	Hole Board	Sequence C reference board for effectivity: 161353 thru 161987.
L123, R123	Hole Board	Sequence D reference board for effectivity: 161353 thru 161987.
L127, R127	Hole Board	Sequence E reference board for effectivity: 161353 thru 161987.
L131, R131	Hole Board	Sequence F reference board for effectivity: 161353 thru 161987.
L144, R144	Hole Board	Sequence A reference board for effectivity: 162394 and Up.
L146, R146	Hole Board	Sequence B reference board for effectivity: 162394 and Up.

Figure 7. Installation of Plate Set for Drilling Door 79 (Sheet 8)

Detail No.	Name	Function
L148, R148	Hole Board	Sequence C reference board for effectivity: 162394 and Up.
L150, R150	Hole Board	Sequence D reference board for effectivity: 162394 and Up.
L152, R152	Hole Board	Sequence E reference board for effectivity: 162394 and Up.
L154, R154	Hole Board	Sequence F reference board for effectivity: 162394 and Up.

Figure 7. Installation of Plate Set for Drilling Door 79 (Sheet 9)


10. DRILLING HOLES IN DOOR 79 SUBSTRUC-
TURE. See figure 8.

Support Equipment Required

Part Number or Type Designation	Nomenclature
RE174110956	Hole Locating Plate Set, Access Cover No. 79
RE374000002	Accessory Kit - Plate Sets, Hole Locating

Materials Required

Specification or Part Number	Nomenclature
---------------------------------	--------------

	Cerrobend	Solder, Wire
---	-----------	--------------

- a. Remove door 79 (A1-F18AC-LMM-010).
- b. Remove and replace damaged substructure.
- c. Retract skin thickness adapters (detail 101) on bonded assemblies to allow bonded assembly to contact door.
- d. Place door 79 on work surface.
- e. Position sequence A bonded assembly halves (details 11 and 12) in position on door 79. Secure halves together using hand knobs (detail 105). Align edges for equal spacing, view A.
- f. Install applicable RE374000002 step pins and bushings through bonded assembly holes and into holes in door, views A and E.



Solder, Wire

14

- g. Pot bushings in bonded assemblies using melted cerrobend, with a minimum of 75% fill, per Hole Locating Plate Set Accessory Kit (A1-F18AC-SRM-200, WP004 16), view E.
- h. Remove sequence A bonded assemblies (details 11 and 12).
- i. Repeat steps c thru g for sequence B bonded assembly halves (details 17 and 18).

- j. Remove sequence B bonded assemblies (details 17 and 18).
- k. Position sequence C bonded assembly (detail 13) and sequence E bonded assembly (detail 15) in position on door 79 aligning applicable index holes, and aligning edges for equal spacing, view B.
- l. Install applicable RE374000002 step pins and bushings through bonded assemblies holes and into holes in door, views B and E.
- m. Pot bushings in bonded assemblies using melted cerrobend, with a minimum of 75% fill, per Hole Locating Plate Set Accessory Kit (A1-F18AC-SRM-200, WP004 16), view E.
- n. Remove sequence C bonded assembly (detail 13) and sequence E bonded assembly (detail 15).
- o. Repeat steps k thru m for sequence D bonded assembly (detail 14) and sequence F bonded assembly (detail 16).
- p. Remove sequence D bonded assembly (detail 14) and sequence F bonded assembly (detail 16).
- q. Tighten skin thickness adapters (detail 101) on bonded assembly to simulate thickness of door, view F.
- r. Position sequence A bonded assemblies (details 11 and 12) on structure and align edges for equal spacing, view C.
- s. Secure bonded assemblies in place using clamps, or bolt in place at outer tab index hole locations, view G.
- t. Drill and ream hole pattern in replacement structure using applicable hole board and applicable repair number work package in Structure Repair, General Information (A1-F18AC-SRM-200).
- u. Remove sequence A bonded assemblies (details 11 and 12).
- v. Position sequence B bonded assemblies (details 17 and 18) on structure and pin in place at numbered index holes 872 and 1146 using RE374000002 step pins per table 1, views C and H.
- w. Repeat steps s and t for sequence B bonded assemblies (details 17 and 18).
- x. Remove sequence B bonded assemblies (details 17 and 18).

y. Position sequence C bonded assembly (detail 13) on structure and pin in place at numbered index holes 888 and 1112 using RE374000002 step pins per table 1, views D and H.

z. Position sequence E bonded assembly (detail 15) on structure and pin in place at numbered index holes 907 and 1150 using RE374000002 step pins per table 1, views D and H.

aa. Repeat steps s and t for sequence C bonded assembly (detail 13) and sequence E bonded assembly (detail 15).

ab. Remove sequence C bonded assembly (detail 13) and sequence E bonded assembly (detail 15).

ac. Position sequence D bonded assembly (detail 14) on structure and pin in place at numbered index holes 888 and 1112 using RE374000002 step pins per table 1, views D and H.

ad. Position sequence F bonded assembly (detail 16) on structure and pin in place at numbered index holes 907 and 1150 using RE374000002 step pins per table 1, views D and H.

ae. Repeat steps s and t for sequence D bonded assembly (detail 14) and sequence F bonded assembly (detail 16).

af. Remove sequence D bonded assembly (detail 14) and sequence F bonded assembly (detail 16).

ag. Install attaching hardware on drilled structure per Replacements (WP005 00).

ah. Clean loose materials from door area.

ai. Install form in place seal on door 79 (A1-F18AC-SRM-500, WP010 00).

aj. Install door 79 (A1-F18AC-LMM-010). Install fasteners wet with sealant (A1-F18AC-SRM-200, WP011 00).

ak. Apply finish system and markings (A1-F18AC-SRM-500, WP027 00).

11. DRILLING HOLES IN DOOR 79 AND SUB-STRUCTURE. See figure 9.

Support Equipment Required

Part Number or Type Designation	Nomenclature
RE174110956	Hole Locating Plate Set, Access Cover No. 79
RE374000002	Accessory Kit - Plate Sets, Hole Locating

Materials Required

Specification or Part Number	Nomenclature
Cerrobend	Solder, Wire

a. Remove damaged door 79 (A1-F18AC-LMM-010).

b. Remove and replace damaged structure.

c. Layout fastener pattern on substructure or use an undamaged door 79 as a template to mark fastener pattern on substructure.

(1) If undamaged door is used as a template, mark location of each fastener hole on structure through existing fastener holes of door.

(2) Inspect marked hole locations for correct edge distance.

d. Drill pilot hole pattern in structure.

e. Remove numbered fasteners 799, 822, 831, 855, and 1371 from wing skin and door 82, view A.

f. Tighten skin thickness adapters (detail 101) on bonded assemblies to simulate thickness of door, views A and E.

g. Position sequence A bonded assembly halves (details 11 and 12) in place on door 79 substructure. Secure halves together using hand knobs (detail 105). Align edges for equal spacing, view A.

h. Install applicable pilot sized step pins and bushings through bonded assembly holes and into holes in structure, views A and F.

i. Install applicable RE374000002 step pins and bushings through outer tabs of bonded assemblies and into fastener holes, views A and G.



Solder, Wire

14

j. Pot bushings in bonded assemblies using melted cerrobend, with a minimum of 75% fill, per Hole Locating Plate Set Accessory Kit (A1-F18AC-SRM-200, WP004 16), view F.

k. Remove sequence A bonded assemblies (details 11 and 12).

l. Repeat steps f thru j for sequence B bonded assemblies (details 17 and 18).

m. Remove sequence B bonded assemblies (details 17 and 18).

n. Position sequence C bonded assembly (detail 13) and sequence E bonded assembly (detail 15) in place on door 79 substructure aligning applicable index holes, and aligning edges for equal spacing, view B.

o. Install applicable pilot sized step pins and bushings through bonded assemblies holes and into holes in structure, views B and F.

p. Pot bushings in bonded assemblies using melted cerrobend, with a minimum of 75% fill, per Hole Locating Plate Set Accessory Kit (A1-F18AC-SRM-200, WP004 16).

q. Remove sequence C bonded assembly (detail 13) and sequence E bonded assembly (detail 15).

r. Position sequence D bonded assembly (detail 14) and sequence F bonded assembly (detail 16) in place on door 79 substructure aligning applicable index holes, and aligning edges for equal spacing, view B.

s. Repeat steps o and p for sequence D bonded assembly (detail 14) and sequence F bonded assembly (detail 16).

t. Remove sequence D bonded assembly (detail 14) and sequence F bonded assembly (detail 16).

u. Trim replacement door 79 (WP005 00).

v. Position replacement door in place on structure, view B.

w. Retract skin thickness adapters (detail 101) on bonded assemblies to allow bonded assemblies to contact door.

x. Position sequence A bonded assemblies (details 11 and 12) on door and pin at two outer tab index hole locations using RE374000002 step pins per table 1, views C and G.

y. Secure bonded assemblies and door in place using clamps, and bolt in place at remaining outer tab index hole locations, view H.

z. Drill and ream hole pattern in replacement door and substructure using applicable hole board and applicable repair number work package in Structure Repair, General Information (A1-F18AC-SRM-200). Install L-pins per table 2 after drilling each hole to prevent door from shifting, view J.

aa. Remove sequence A bonded assemblies (details 11 and 12).

ab. Position sequence B bonded assemblies (details 17 and 18) on door and pin in place at numbered index holes 872 and 1146 using RE374000002 step pins per table 1, views C and K.

ac. Repeat steps y and z for sequence B bonded assemblies (details 17 and 18).

ad. Remove sequence B bonded assemblies (details 17 and 18).

ae. Position sequence C bonded assembly (detail 13) on door and pin in place at numbered index holes 888 and 1112 using RE374000002 step pins per table 1, views D and K.

af. Position sequence E bonded assembly (detail 15) on door and pin in place at numbered index holes 907 and 1150 using RE374000002 step pins per table 1, views D and K.

ag. Secure bonded assemblies and door in place using clamps.

ah. Drill and ream hole pattern in replacement door and substructure using applicable hole board and applicable repair number work package in Structure Repair, General Information (A1-F18AC-SRM-200). Install L-pins per table 2 after drilling each hole to prevent door from shifting, view J.

ai. Remove sequence C bonded assembly (detail 13) and sequence E bonded assembly (detail 15).

aj. Position sequence D bonded assembly (detail 14) on door and pin in place at numbered index holes 888 and 1112 using RE374000002 step pins per table 1, views D and K.

ak. Position sequence F bonded assembly (detail 16) on door and pin in place at numbered index holes 907 and 1150 using RE374000002 step pins per table 1, views D and K.

al. Repeat steps ag and ah for sequence D bonded assembly (detail 14) and sequence F bonded assembly (detail 16).

am. Remove sequence D bonded assembly (detail 14) and sequence F bonded assembly (detail 16).

an. Countersink holes in door per Aircraft Structure Repair Tool Kit (A1-F18AC-SRM-200, WP004 16).

ao. Install attaching hardware on drilled structure per Replacements (WP005 00).

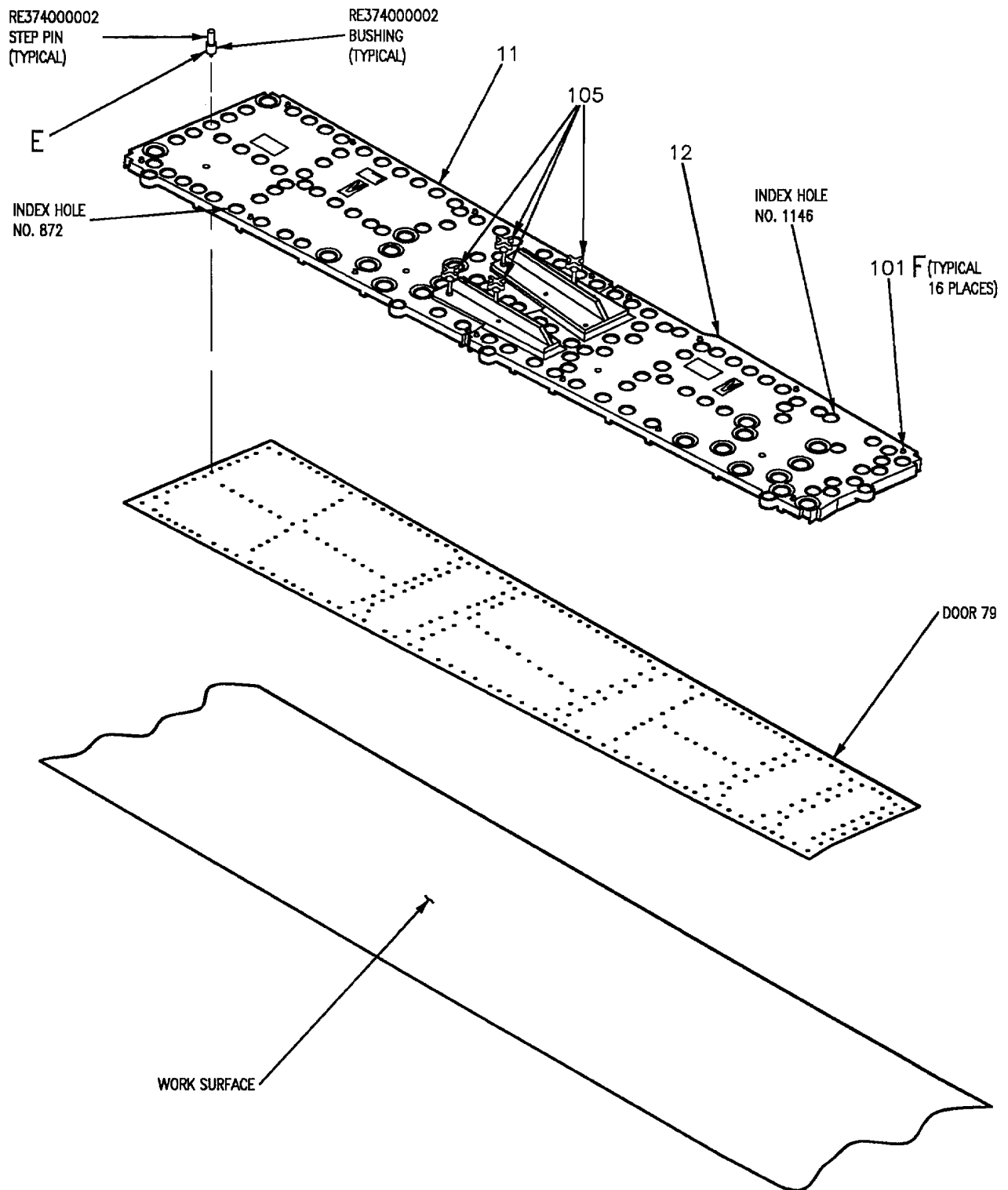
ap. Clean loose materials from door and door area.

aq. Reinstall numbered fasteners 799, 822, 831, 855, and 1371 in wing skin and door 82.

ar. Install form in place seal on door 79 (A1-F18AC-SRM-500, WP010 00).

as. Install door 79 (A1-F18AC-LMM-010). Install fasteners wet with sealant (A1-F18AC-SRM-200, WP011 00).

at. Apply finish system and markings (A1-F18AC-SRM-500, WP027 00).



A

05030801

Figure 8. Installation of Plate Set for Drilling Door 79 Substructure (Sheet 1)

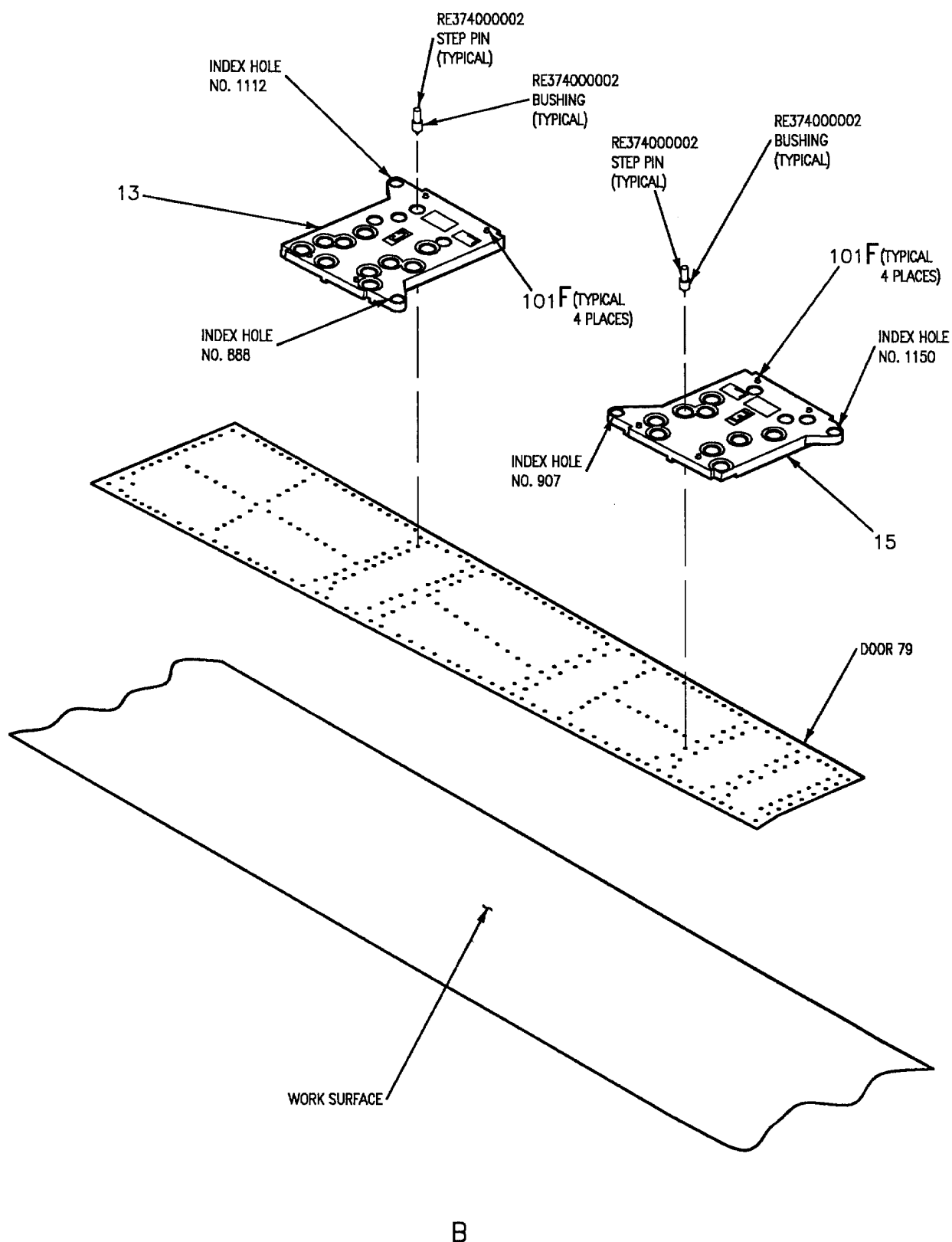
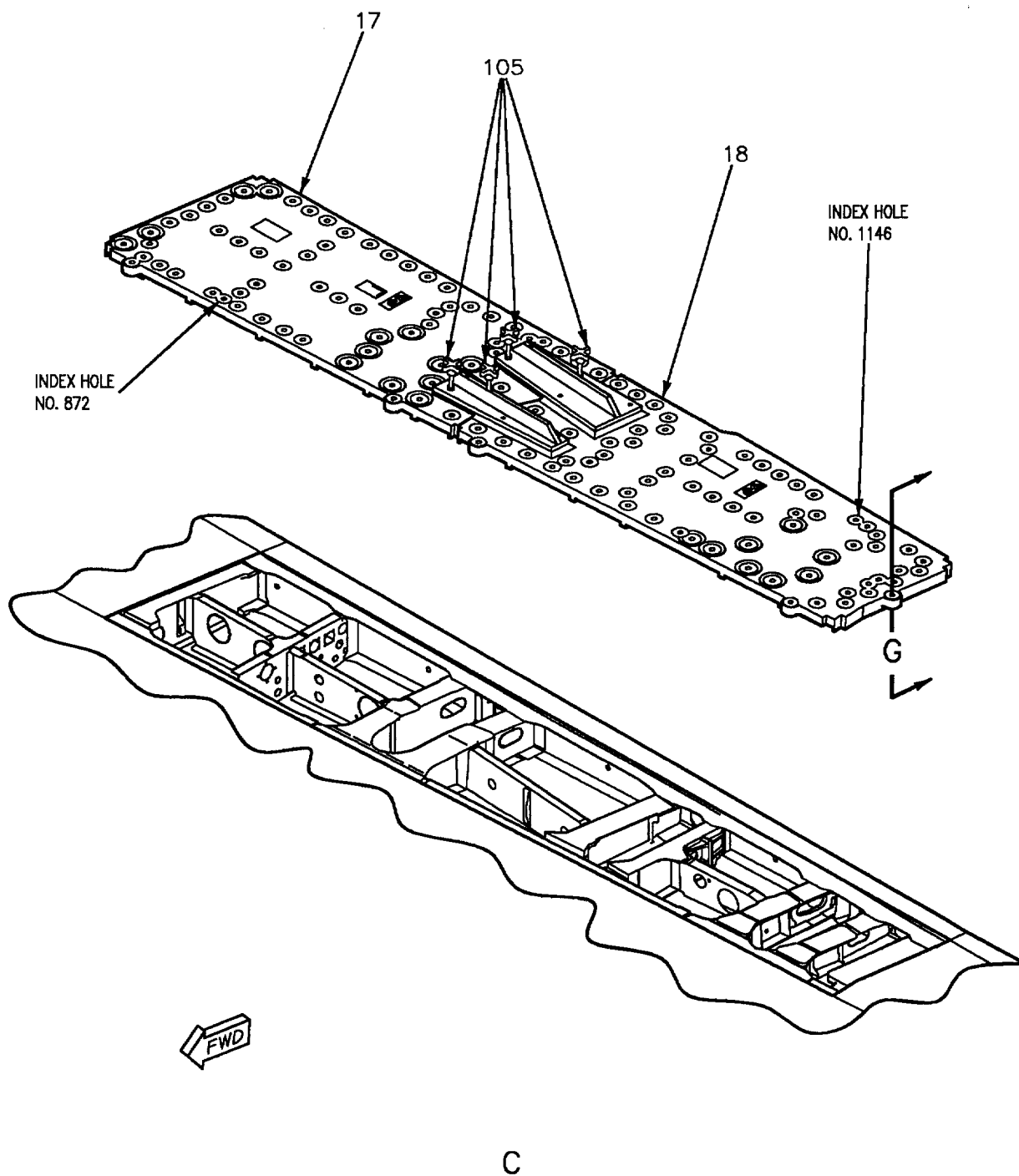


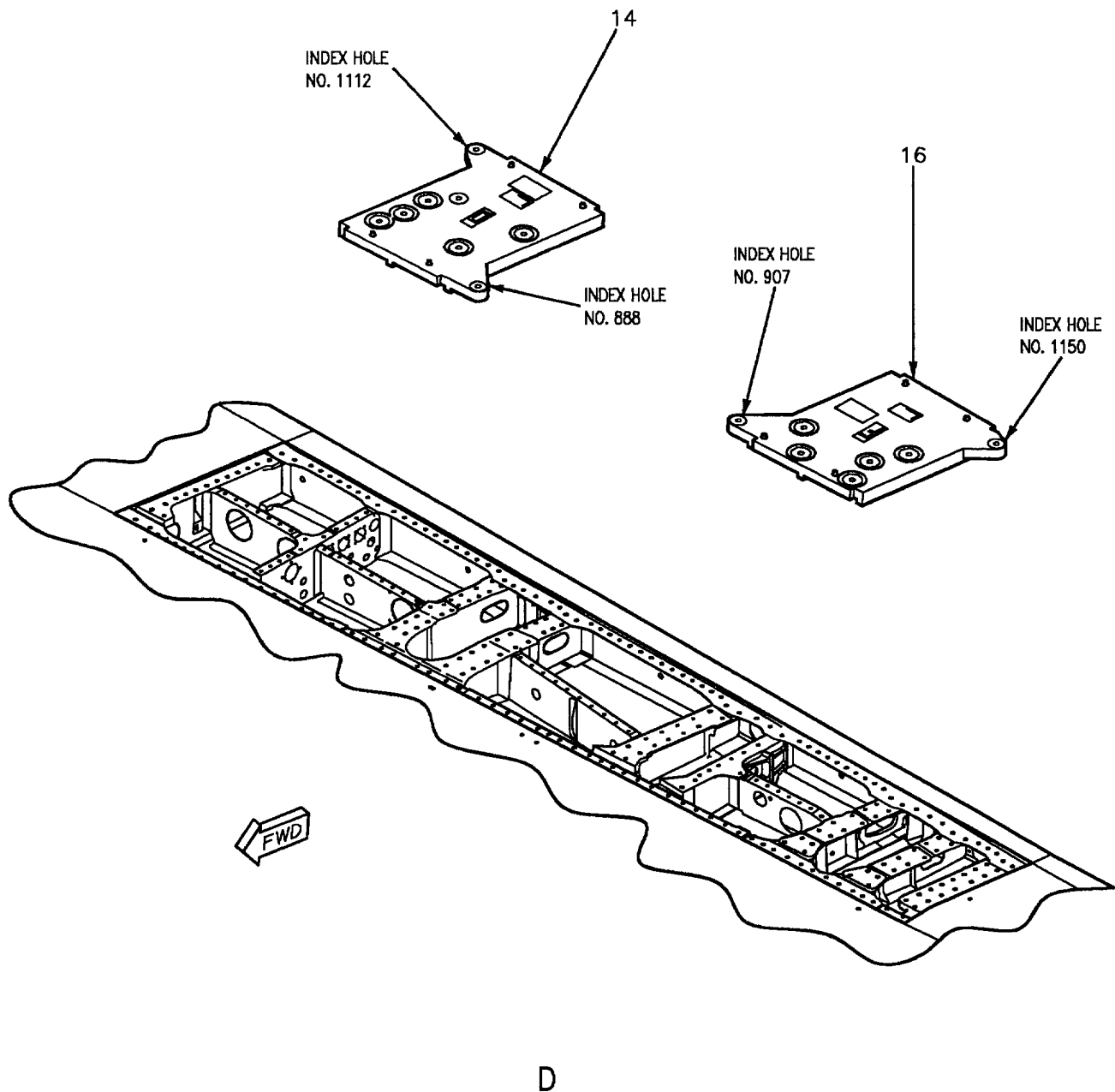
Figure 8. Installation of Plate Set for Drilling Door 79 Substructure (Sheet 2)

05030802



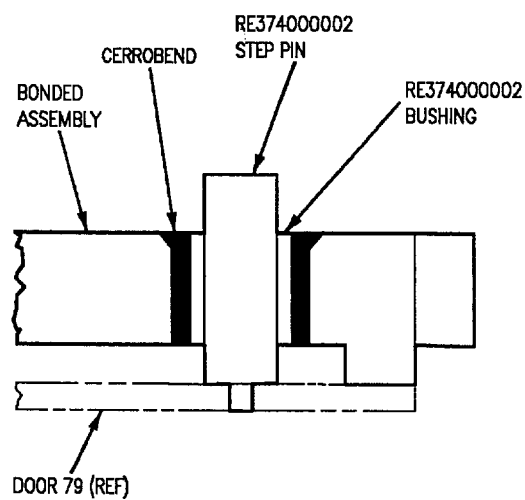
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Figure 8. Installation of Plate Set for Drilling Door 79 Substructure (Sheet 3)

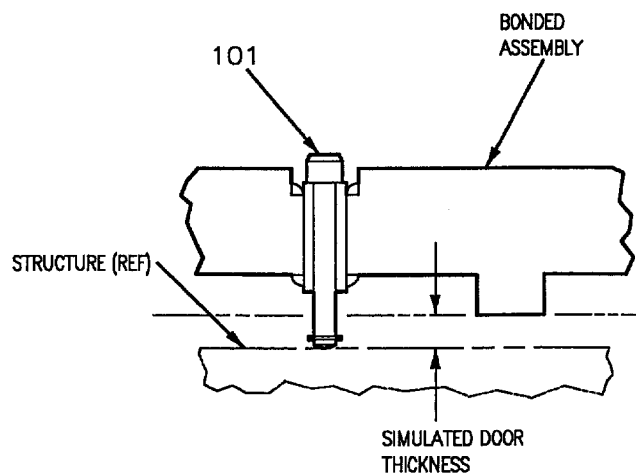


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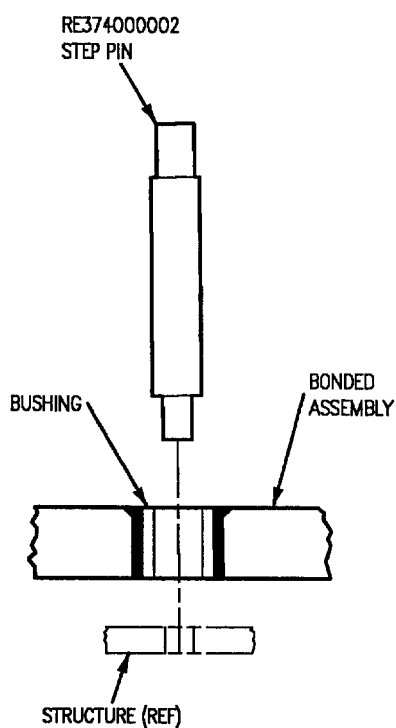
Figure 8. Installation of Plate Set for Drilling Door 79 Substructure (Sheet 4)



E

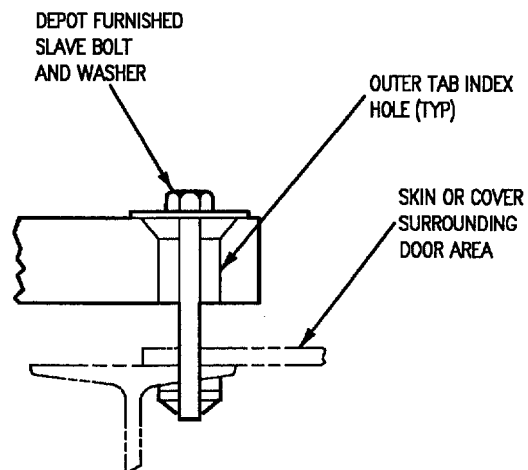


F



H

PINNING INDEX HOLES



G

Figure 8. Installation of Plate Set for Drilling Door 79 Substructure (Sheet 5)

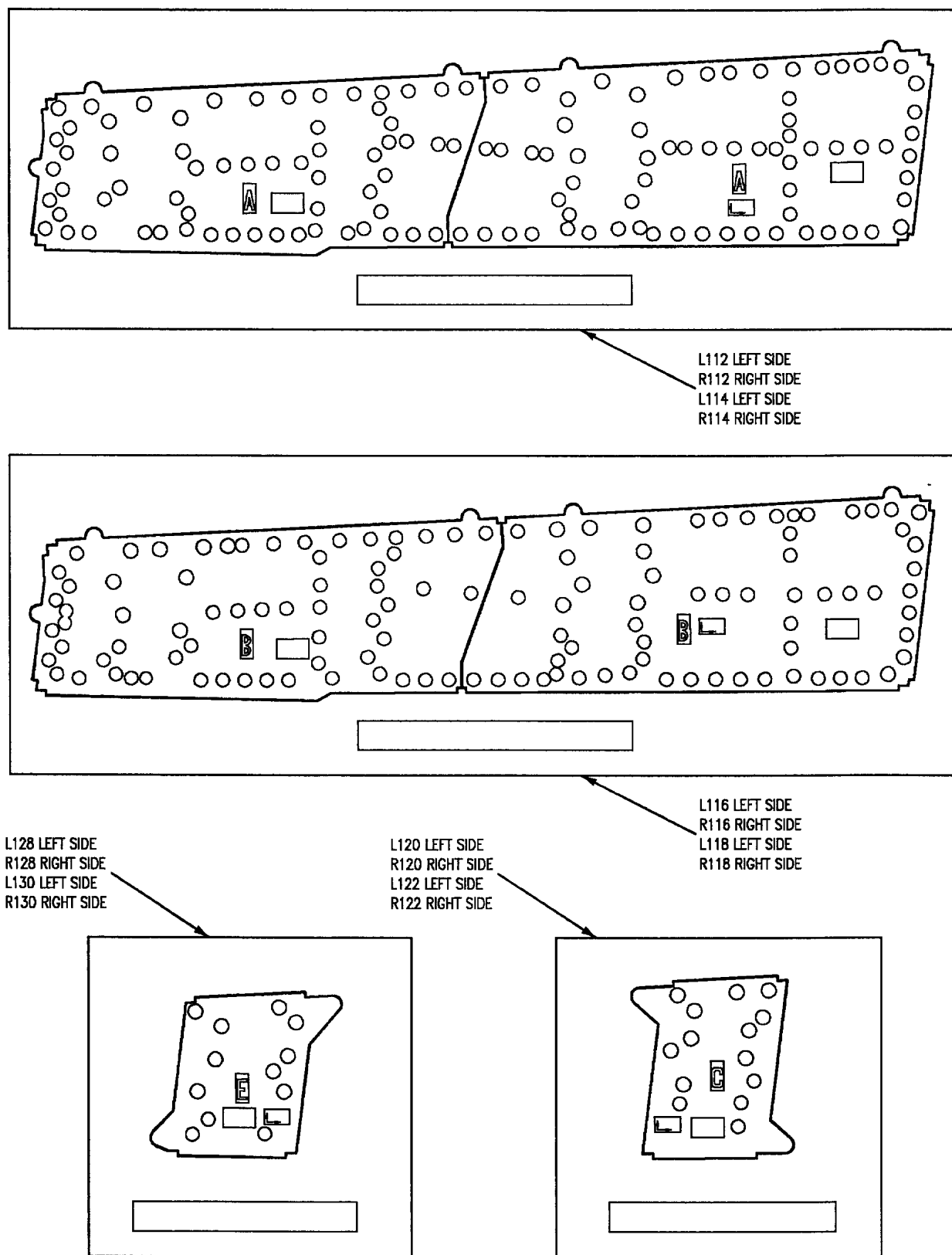


Figure 8. Installation of Plate Set for Drilling Door 79 Substructure (Sheet 6)

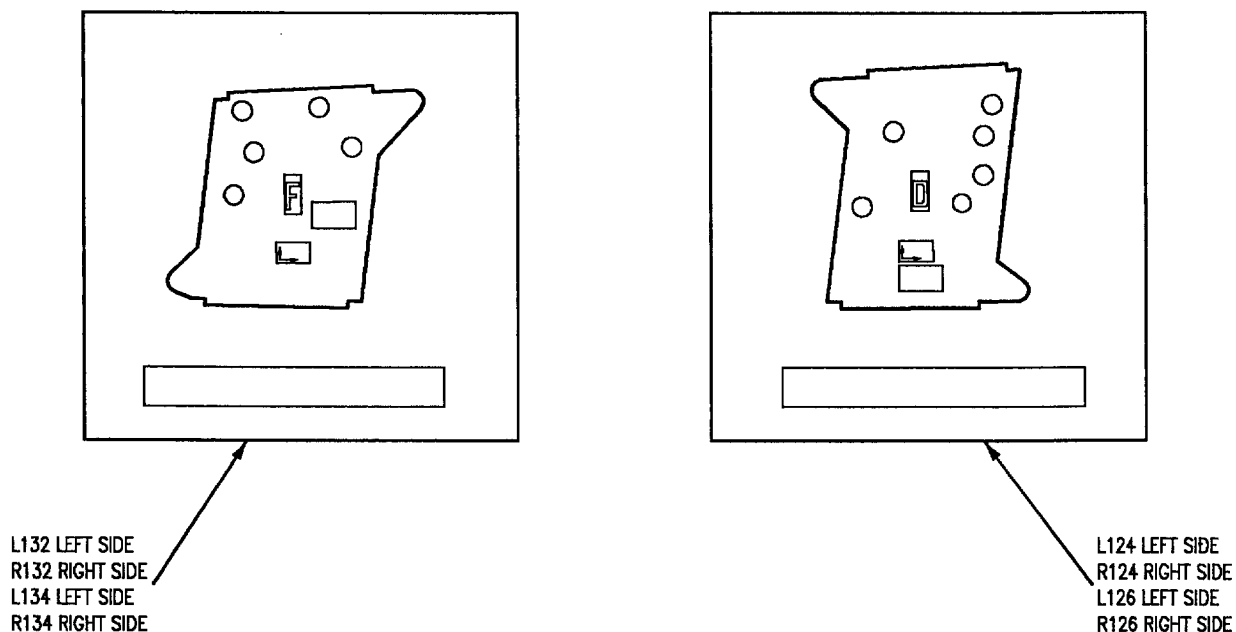


TABLE 1. DETAILS OF RE374000002 USED FOR INDEX HOLES				
NOTE	HOLE NO.	HOLE DIA.	STEP PIN DETAIL NO.	POTTED BUSHING
1	799	0.2500	126	121
1	822	0.3125	119	121
1	831	0.2500	126	121
1	855	0.3125	119	121
	872	0.2500	126	121
	888	0.3125	119	121
	907	0.3125	119	121
	1112	0.2500	126	121
	1146	0.3125	119	121
	1150	0.2500	126	121
1	1371	0.2500	126	121

1 INDEX HOLES IN SKIN OR STRUCTURE NEXT TO DOOR AREA.

Figure 8. Installation of Plate Set for Drilling Door 79 Substructure (Sheet 7)

Detail No.	Name	Function
11	Sequence A Bonded Assembly-Inboard Half	Used to locate and drill hole pattern in door and structure.
12	Sequence A Bonded Assembly-Outboard Half	Used to locate and drill hole pattern in door and structure.
13	Sequence C Bonded Assembly	Used to locate and drill hole pattern in door and structure.
14	Sequence D Bonded Assembly	Used to locate and drill hole pattern in door and structure.
15	Sequence E Bonded Assembly	Used to locate and drill hole pattern in door and structure.
16	Sequence F Bonded Assembly	Used to locate and drill hole pattern in door and structure.
17	Sequence B Bonded Assembly-Inboard Half	Used to locate and drill hole pattern in door and structure.
18	Sequence B Bonded Assembly-Outboard Half	Used to locate and drill hole pattern in door and structure.
101	Skin Thickness Adapter	Simulates thickness of door on structure.
105	Hand Knob	Secures inboard half of bonded assembly to outboard half of bonded assembly.
L112, R112	Hole Board	Sequence A reference board for effectivity: 161353 thru 161987.
L114, R114	Hole Board	Sequence A reference board for effectivity: 162394 and Up.
L116, R116	Hole Board	Sequence B reference board for effectivity: 161353 thru 161987.
L118, R118	Hole Board	Sequence B reference board for effectivity: 162394 and Up.
L120, R120	Hole Board	Sequence C reference board for effectivity: 161353 thru 161987.
L122, R122	Hole Board	Sequence C reference board for effectivity: 162394 and Up.
L124, R124	Hole Board	Sequence D reference board for effectivity: 161353 thru 161987.
L126, R126	Hole Board	Sequence D reference board for effectivity: 162394 and Up.

Figure 8. Installation of Plate Set for Drilling Door 79 Substructure (Sheet 8)

Detail No.	Name	Function
L128, R128	Hole Board	Sequence E reference board for effectivity: 161353 thru 161987.
L130, R130	Hole Board	Sequence E reference board for effectivity: 162394 and Up.
L132, R132	Hole Board	Sequence F reference board for effectivity: 161353 thru 161987.
L134, R134	Hole Board	Sequence F reference board for effectivity: 162394 and Up.

Figure 8. Installation of Plate Set for Drilling Door 79 Substructure (Sheet 9)

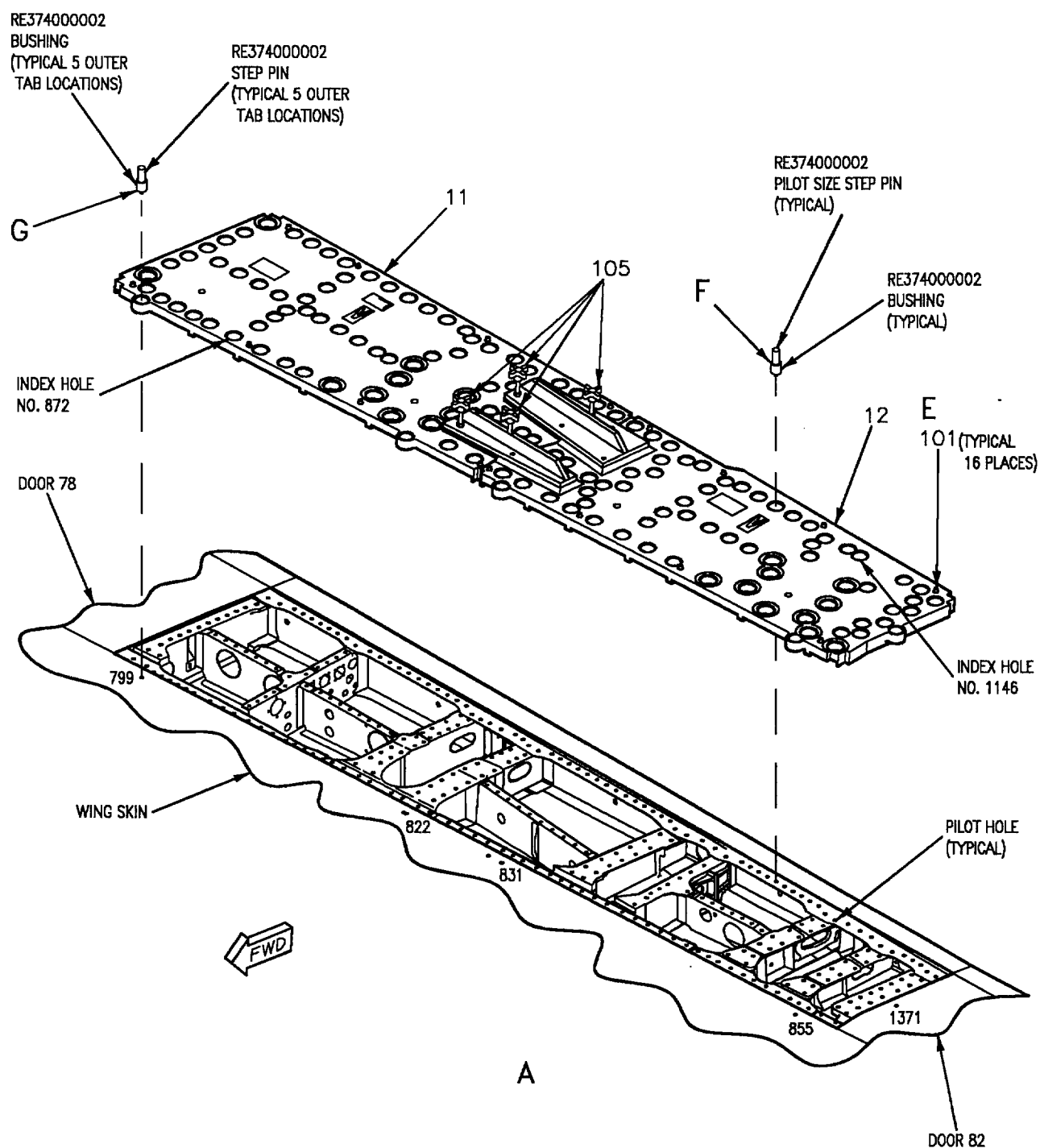
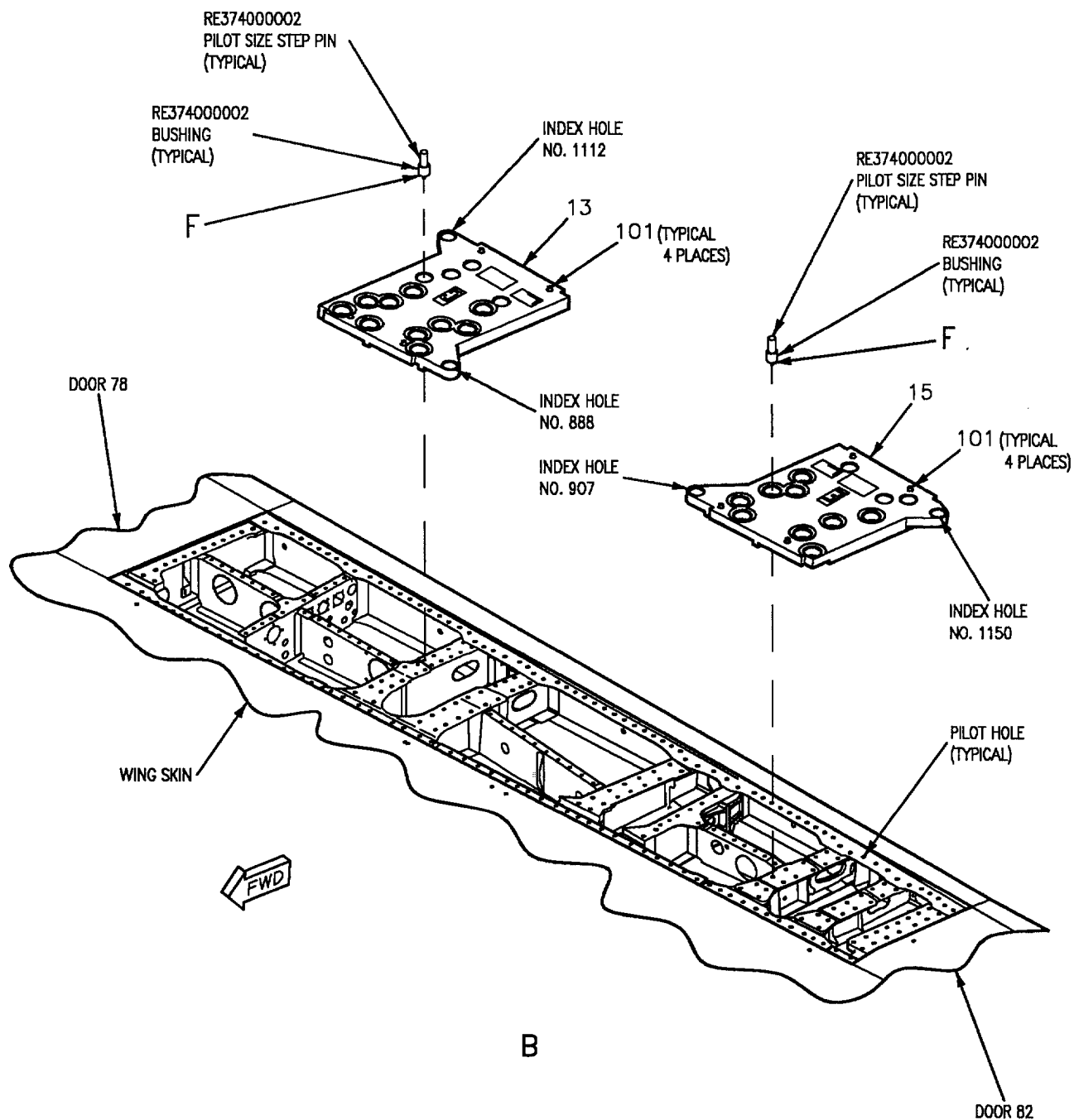
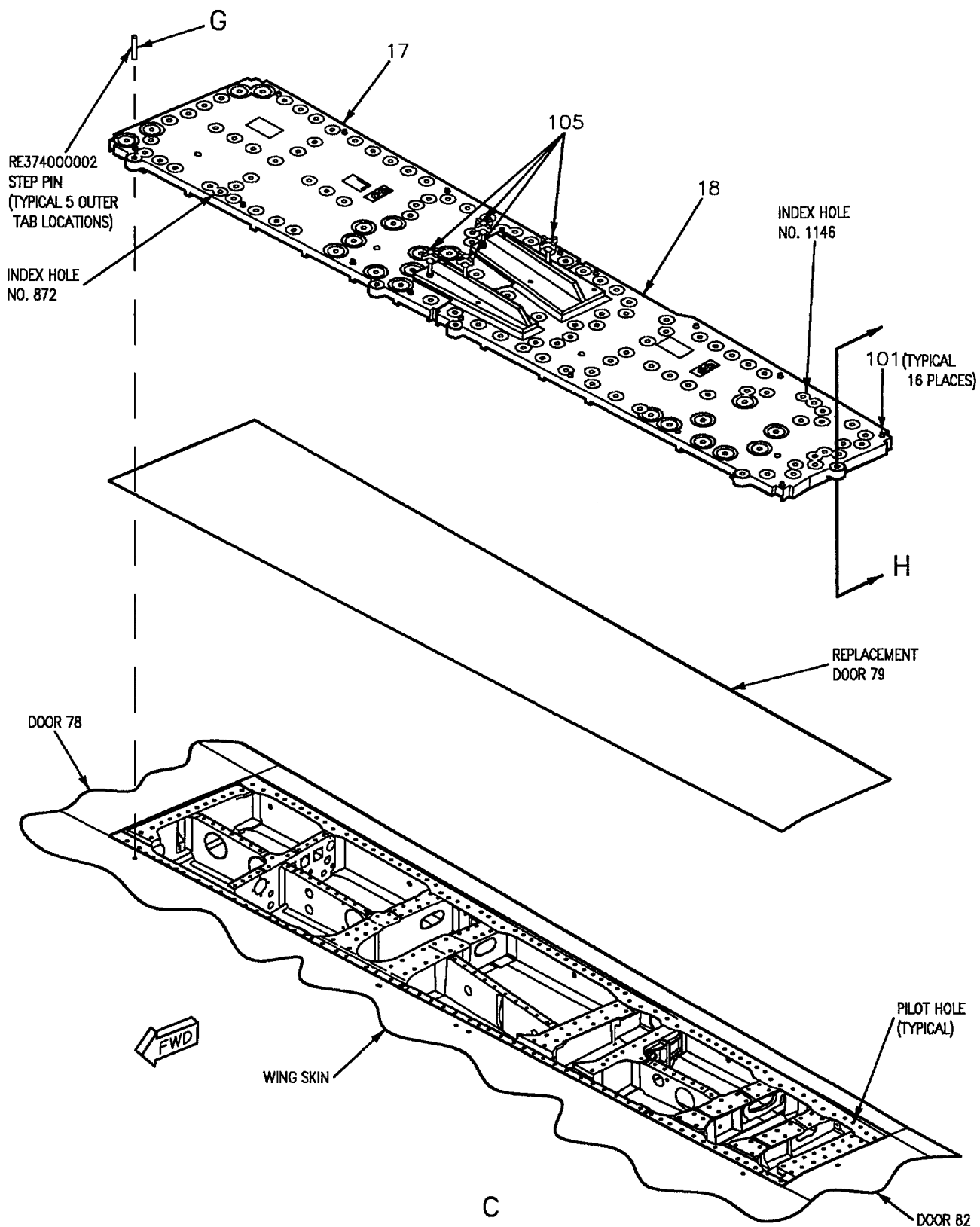


Figure 9. Installation of Plate Set for Drilling Door 79 and Substructure (Sheet 1)



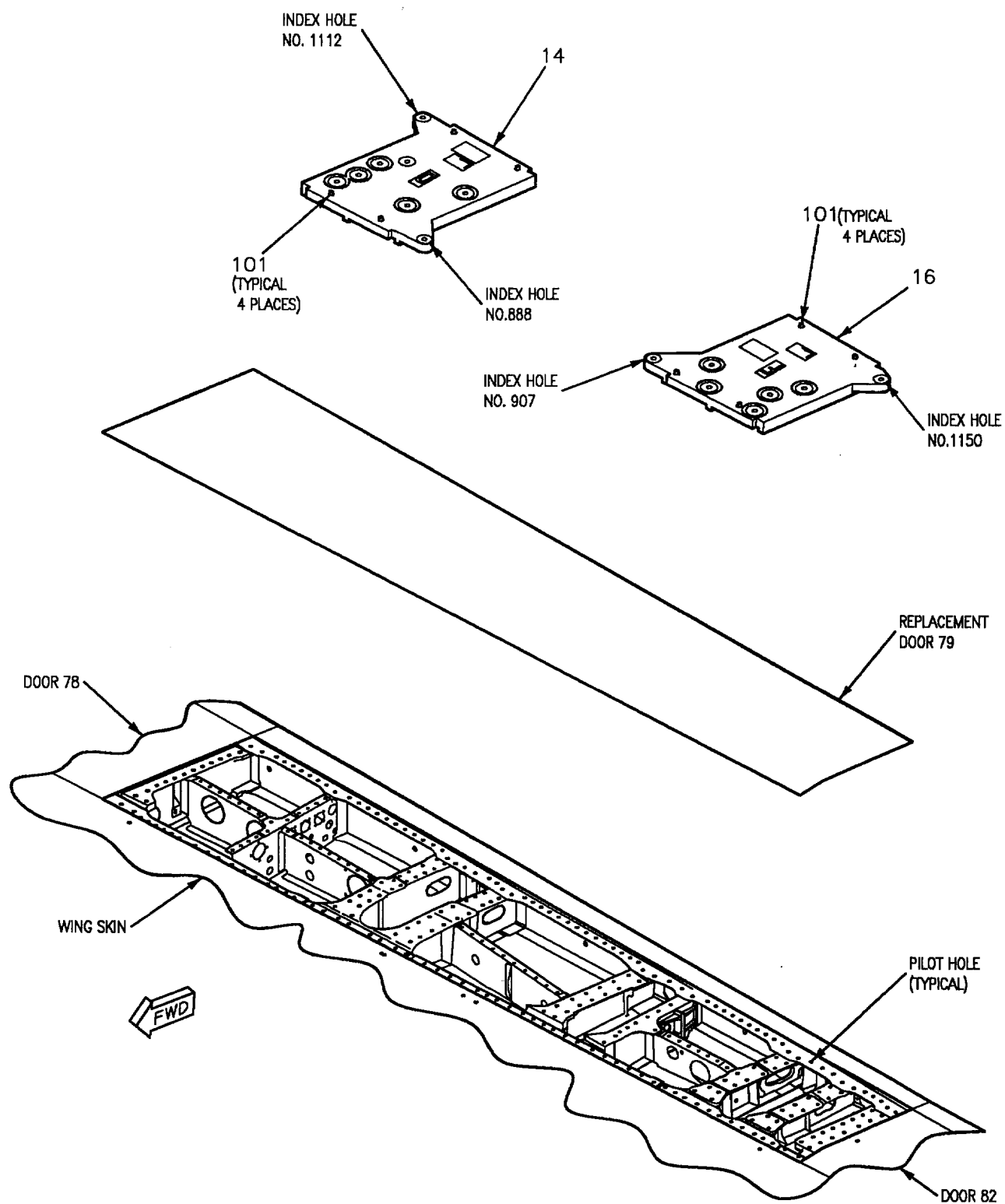
05030902

Figure 9. Installation of Plate Set for Drilling Door 79 and Substructure (Sheet 2)



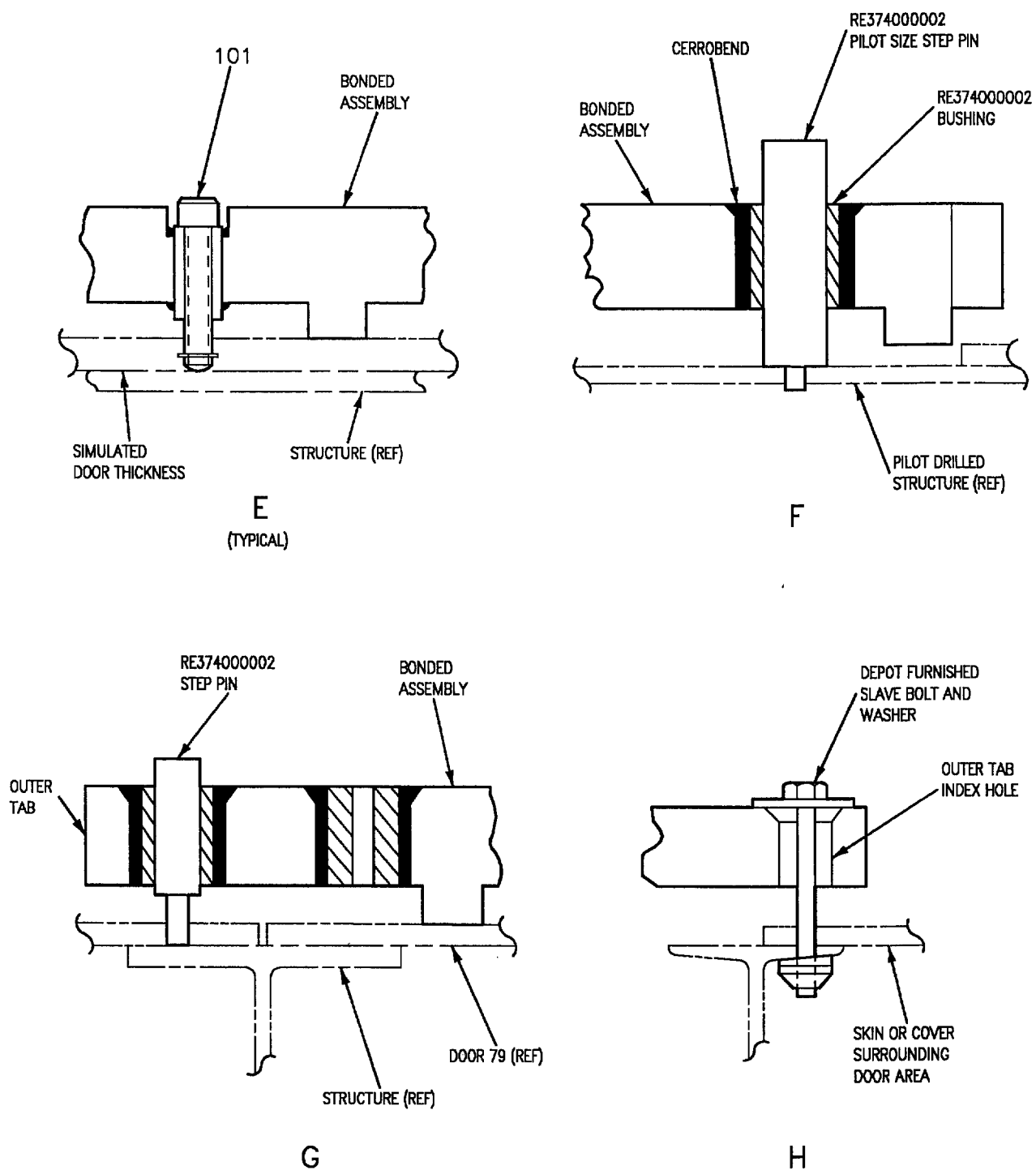
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Figure 9. Installation of Plate Set for Drilling Door 79 and Substructure (Sheet 3)



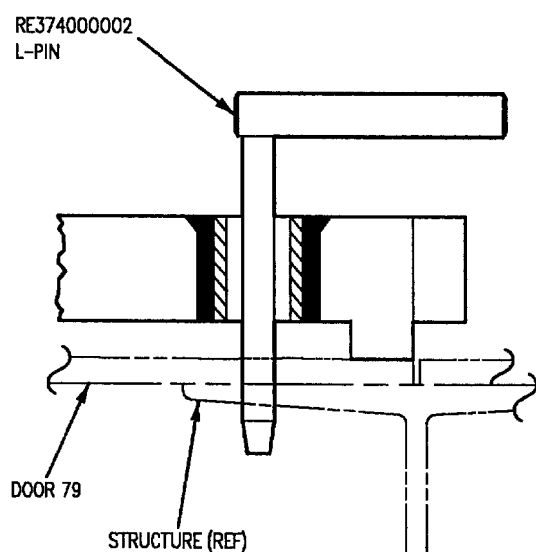
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Figure 9. Installation of Plate Set for Drilling Door 79 and Substructure (Sheet 4)

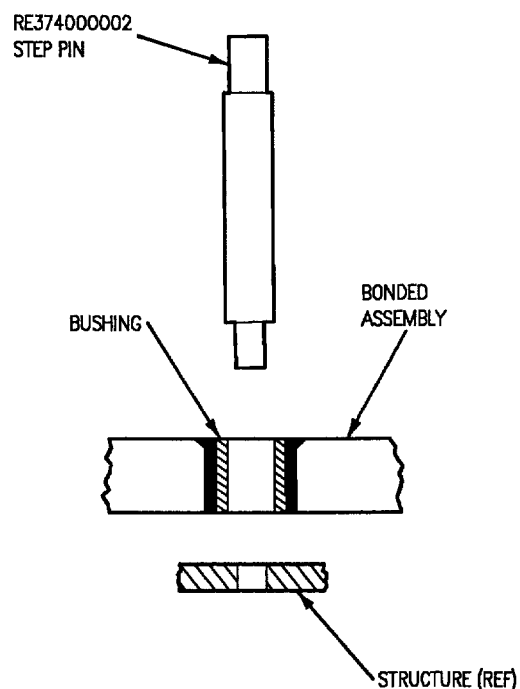


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Figure 9. Installation of Plate Set for Drilling Door 79 and Substructure (Sheet 5)



J



K
PINNING INDEX HOLES

L113 LEFT SIDE
R113 RIGHT SIDE
L145 LEFT SIDE
R145 RIGHT SIDE

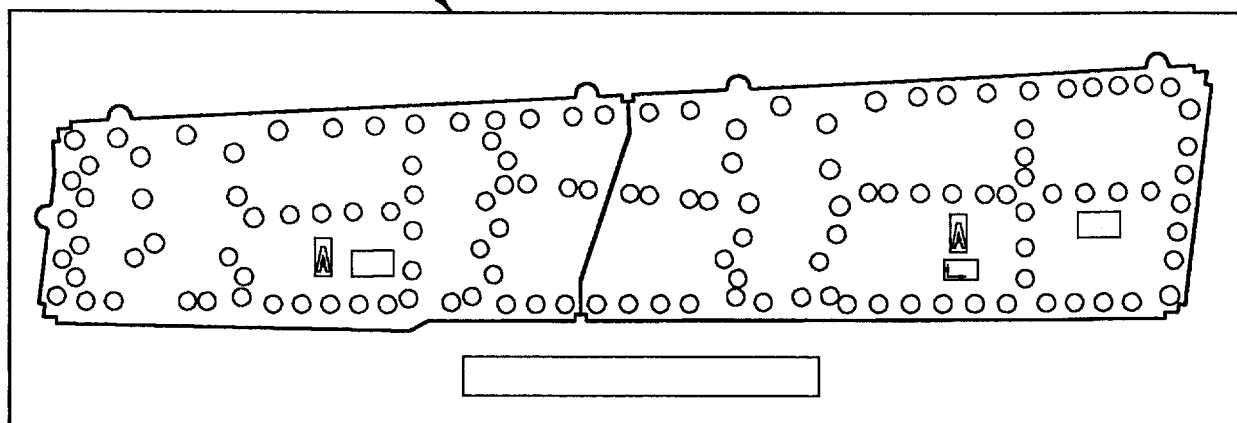
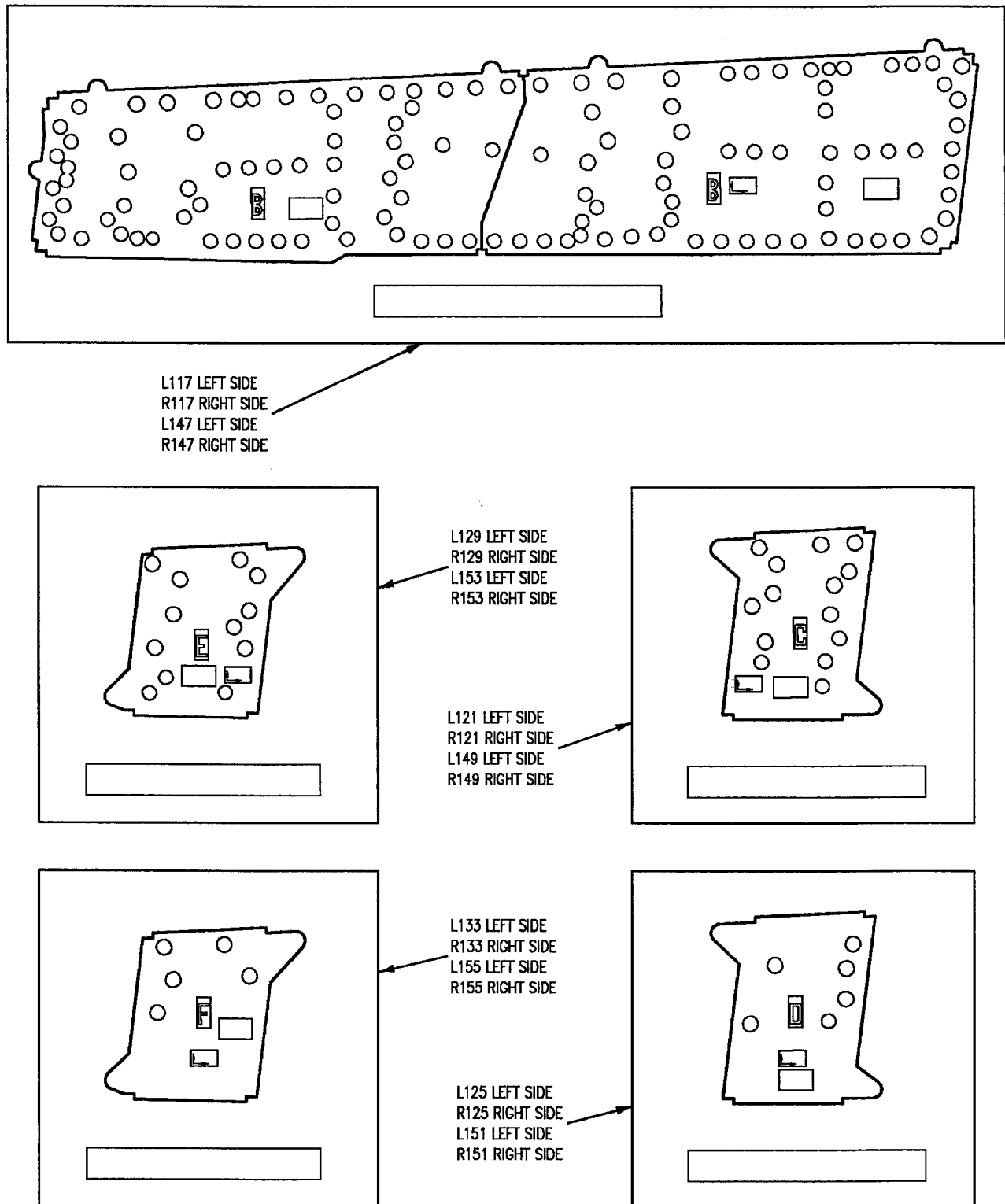







Figure 9. Installation of Plate Set for Drilling Door 79 and Substructure (Sheet 6)



05030907

Figure 9. Installation of Plate Set for Drilling Door 79 and Substructure (Sheet 7)

TABLE 1. DETAILS OF RE374000002 USED FOR INDEX HOLES				
NOTE	HOLE NO.	HOLE DIA	STEP PIN DETAIL NO.	POTTED BUSHING
   	799	0.2500	126	121
	822	0.3125	119	121
	831	0.2500	126	121
	855	0.3125	119	121
	872	0.2500	126	121
	888	0.3125	119	121
	907	0.3125	119	121
	1112	0.2500	126	121
	1146	0.3125	119	121
	1150	0.2500	126	121
	1371	0.2500	126	121

 INDEX HOLES IN SKIN OR STRUCTURE
 NEXT TO DOOR AREA.

TABLE 2. DETAILS OF RE374000002 USED FOR PINNING DRILLED HOLES			
HOLE SIZE	DETAIL NUMBER		
	NOMINAL	FIRST OVERSIZE	SECOND OVERSIZE
0.2500	146	147	148
0.3125	149	150	151
0.3750	152	153	154

05030908

Figure 9. Installation of Plate Set for Drilling Door 79 and Substructure (Sheet 8)

Detail No.	Name	Function
11	Sequence A Bonded Assembly - Inboard Half	Used to locate and drill hole pattern in door and structure.
12	Sequence A Bonded Assembly - Outboard Half	Used to locate and drill hole pattern in door and structure.
13	Sequence C Bonded Assembly	Used to locate and drill hole pattern in door and structure.
14	Sequence D Bonded Assembly	Used to locate and drill hole pattern in door and structure.
15	Sequence E Bonded Assembly	Used to locate and drill hole pattern in door and structure.
16	Sequence F Bonded Assembly	Used to locate and drill hole pattern in door and structure.
17	Sequence B Bonded Assembly - Inboard Half	Used to locate and drill hole pattern in door and structure.
18	Sequence B Bonded Assembly - Outboard Half	Used to locate and drill hole pattern in door and structure.
101	Skin Thickness Adapter	Simulates thickness of door on structure.
105	Hand Knob	Secures inboard half of bonded assembly to outboard half of bonded assembly.
L113, R113	Hole Board	Sequence A reference board for effectivity: 161353 thru 161987.
L117, R117	Hole Board	Sequence B reference board for effectivity: 161353 thru 161987.
L121, R121	Hole Board	Sequence C reference board for effectivity: 161353 thru 161987.
L125, R125	Hole Board	Sequence D reference board for effectivity: 161353 thru 161987.
L129, R129	Hole Board	Sequence E reference board for effectivity: 161353 thru 161987.
L133, R133	Hole Board	Sequence F reference board for effectivity: 161353 thru 161987.
L145, R145	Hole Board	Sequence A reference board for effectivity: 162394 and Up.
L147, R147	Hole Board	Sequence B reference board for effectivity: 162394 and Up.

Figure 9. Installation of Plate Set for Drilling Door 79 and Substructure (Sheet 9)

Detail No.	Name	Function
L149, R149	Hole Board	Sequence C reference board for effectivity: 162394 and Up.
L151, R151	Hole Board	Sequence D reference board for effectivity: 162394 and Up.
L153, R153	Hole Board	Sequence E reference board for effectivity: 162394 and Up.
L155, R155	Hole Board	Sequence F reference board for effectivity: 162394 and Up.

Figure 9. Installation of Plate Set for Drilling Door 79 and Substructure (Sheet 10)

ORGANIZATIONAL MAINTENANCE

STRUCTURE REPAIR

INNER WING EXTERNAL DOORS 20, 21, 107, LOWER

Reference Material

Aircraft Corrosion Control	A1-F18AC-SRM-500
Inner and Outer Wing Finish System and Markings	WP027 00
Structure Illustrated Parts Breakdown - Wing	A1-F18AC-SRM-410
Structure Assy, Wing, Inner	FIG 013 00
Structure Repair, General Information	A1-F18AC-SRM-200
Introduction	WP002 00
Adhesive, Cement, and Sealant; Preparation and Application	WP011 00
Structure Repair, Typical Repair	A1-F18AC-SRM-250
Aluminum Sheet, Free of Structure and Land Areas	WP031 00
Aluminum Sheet Edge Repair	WP034 00
Aluminum Sheet Repairs Across Structure and Lands	WP036 00
Blending	WP038 00
Aircraft Weapons System Cleaning and Corrosion Control	NAVAIR 01-1A-509

Alphabetical Index

Subject	Page No.
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Negligible Damage	2
Repairable Damage	2
Repairs	2
Permanent Repairs	2
Replacement	3
Cover (Door 20)	3
Cover (Door 21)	3
Door (Door 107)	3

Record of Applicable Technical Directives

None

Support Equipment Required

None

1. **DAMAGE EVALUATION.** See figures 1 and
- 2.

Materials Required

None

2. Damage is classified as negligible and repairable. The types of material used are shown on figure 1. Repair zones are shown on figure 2. Allowable damage limits within repair zones are listed in tables 1 and 2. Repair to aluminum sheet across structure or land areas, 0.063 inch material or thicker, in zone B2 is depot maintenance. Locating and determining size of damage by visual method is organizational maintenance. Damage not listed or exceeding the limits below requires a depot engineering disposition.

3. **NEGLIGIBLE DAMAGE.** Negligible damage is damage that may be allowed to exist as is. Preventive maintenance, for temporary corrosion arrestment, should be done to scratches (NAVAIR 01-1A-509). The types and limits of damage are listed below and in table 1. The figure and index numbers in table 1 coincide with the figure and index numbers in the material index.

a. Scratches are not allowed within one diameter from the edge of any hole.

b. Smooth dents only, effective diameter at least 20 times the depth.

4. **REPAIRABLE DAMAGE.** The types and limits of damage are listed below and in table 2. The figure and index numbers in table 2 coincide with figure and index numbers in the material index, figure 1.

NOTE

The limits in table 2 apply after blending the damage.

a. Scratches.

(1) Any scratches within one diameter of any hole must be blended out. Minimum blend out is one diameter from edge of any hole.

(2) Scratches to be blended out with diameter, or width, at surface at least 20 times the depth.

b. Nicks, gouges, and corrosion to be blended out with diameter, or width, at surface at least 20 times the depth.

c. Cracks. All cracks must be repaired.

d. Holes.

(1) Damage in areas free of structure and land must have edge of cleanup hole at least eight repair fastener

diameters from any land, internal structure or existing row of fasteners.

(2) Damage to land, over structure, only one repair per land.

e. Dents exceeding the limits in table 1 must be repaired.

5. REPAIRS.

6. Types of repairs are temporary, one-time flight, permanent, critical area, alternate, and typical. Repair type definition are in structure repair terms (A1-F18AC-SRM-200, WP002 00).

7. PERMANENT REPAIRS.

8. Scratches, Nicks, Gouges, or Corrosion.

Blend scratches, nicks, gouges, or corrosion (A1-F18AC-SRM-250, WP038 00). If, after blending, the damage limits of table 2 are exceeded, repair aluminum sheet. Refinish blended areas (A1-F18AC-SRM-500, WP027 00).

a. Scratches - make crack or edge repairs.

b. Nicks, gouges, or corrosion - make hole or edge repair.

9. Cracks.

a. In repair zones A4, B1, and B2 repair cracks free of structure or land areas in aluminum sheet (A1-F18AC-SRM-250, WP031 00).

(1) Cut out damage in smallest diameter circle.

(2) Install type two flush or lap patch.

(3) Refinish repaired area (A1-F18AC-SRM-500, WP027 00).

b. In repair zones A4, B1, and B2 repair cracks across structure or land areas in aluminum sheet (A1-F18AC-SRM-250, WP036 00).

(1) Cut out damage.

(2) In repair zones A4, B1, and B2 make repairs.

(a) Damage to Bay Requiring Repair Across Land; install flush or lap patch.

(b) Damage to Bay Requiring Repair Across Land and Edge of Part; install flush or lap patch.

(c) Damage to Land or Land and Bay; install flush or lap patch.

(3) Refinish repaired area (A1-F18AC-SRM-500, WP027 00).

10. Holes.

a. In repair zones A4, B1, and B2 repair holes free of structure or land areas in aluminum sheet (A1-F18AC-SRM-250, WP031 00).

(1) Cut out damage.

(2) Install type two flush or lap patch.

(3) Refinish repaired area (A1-F18AC-SRM-500, WP027 00).

b. In repair zones A4, B1, and B2 repair holes across structure or land areas in aluminum sheet (A1-F18AC-SRM-250, WP036 00).

(1) Cut out damage.

(2) In repair zones A4, B1, and B2 make repairs.

(a) Damage to Bay Requiring Repair Across Land; install flush or lap patch.

(b) Damage to Bay Requiring Repair Across Land and Edge of Part; install flush or lap patch.

(c) Damage to Land or Land and Bay; install flush or lap patch.

(3) Refinish repaired area (A1-F18AC-SRM-500, WP027 00).

11. **Edge.** In repair zones A4, B1, and B2 repair edge damage in aluminum sheet (A1-F18AC-SRM-250, WP034 00).

a. Cut out damage.

b. Select repair patch for type of edge damage (A1-F18AC-SRM-250, WP034 00).

(1) Corner Damage to Lands.

(2) Corner Damage to Lands and Bays.

(3) Edge Damage to Lands.

(4) Edge Damage to Lands and Bays.

(5) Full Width Damage to End.

c. Refinish repaired area (A1-F18AC-SRM-500, WP027 00).

12. Dents.

a. In repair zones A4, B1, and B2 repair dents free of structure or land areas in aluminum sheet (A1-F18AC-SRM-250, WP031 00).

(1) Cut out damage.

(2) Install type two flush or lap patch.

(3) Refinish repaired area (A1-F18AC-SRM-500, WP027 00).

b. In repair zones A4, B1, and B2, repair dents across structure or land areas in aluminum sheet (A1-F18AC-SRM-250, WP036 00).

(1) Cut out damage.

(2) In repair zones A4, B1, and B2 make repairs.

(a) Damage to Bay Requiring Repair Across Land; install flush or lap patch.

(b) Damage to Bay Requiring Repair Across Land and Edge of Part.

(c) Damage to Land or Land and Bay; install flush or lap patch.

(3) Refinished repaired area (A1-F18AC-SRM-500, WP027 00).

13. REPLACEMENT.

14. **COVER (DOOR 20).** Cover is interchangeable. Fastener attaching hardware is shown on figure 3. Fabrication of beam is intermediate level. For fay sealing (A1-F18AC-SRM-200, WP011 00). For fasteners (A1-F18AC-SRM-410, FIG 013 00).

15. **COVER (DOOR 21).** Cover is interchangeable. Fastener attaching hardware is shown on figure 3. For fay sealing (A1-F18AC-SRM-200, WP011 00). For fasteners (A1-F18AC-SRM-410, FIG 013 00).

16. **DOOR (DOOR 107).** Door is interchangeable. Fasteners are shown on figure 3.

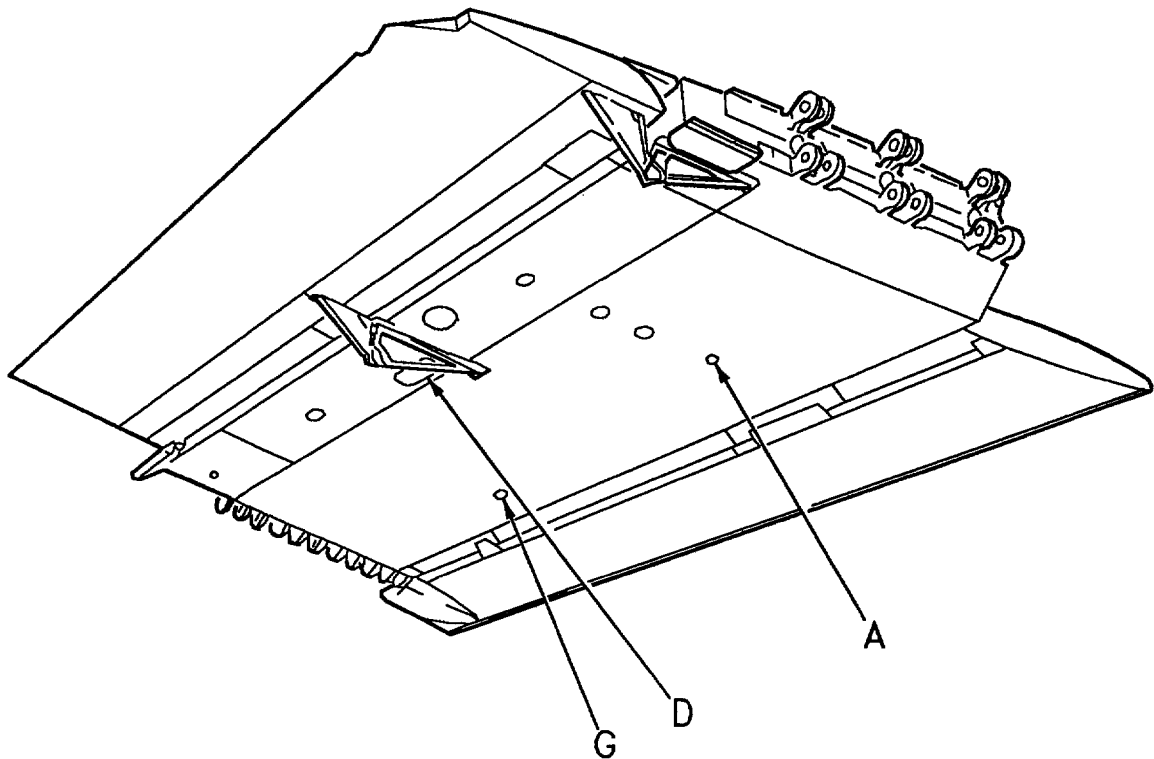


Figure 1. Material Index (Sheet 1)

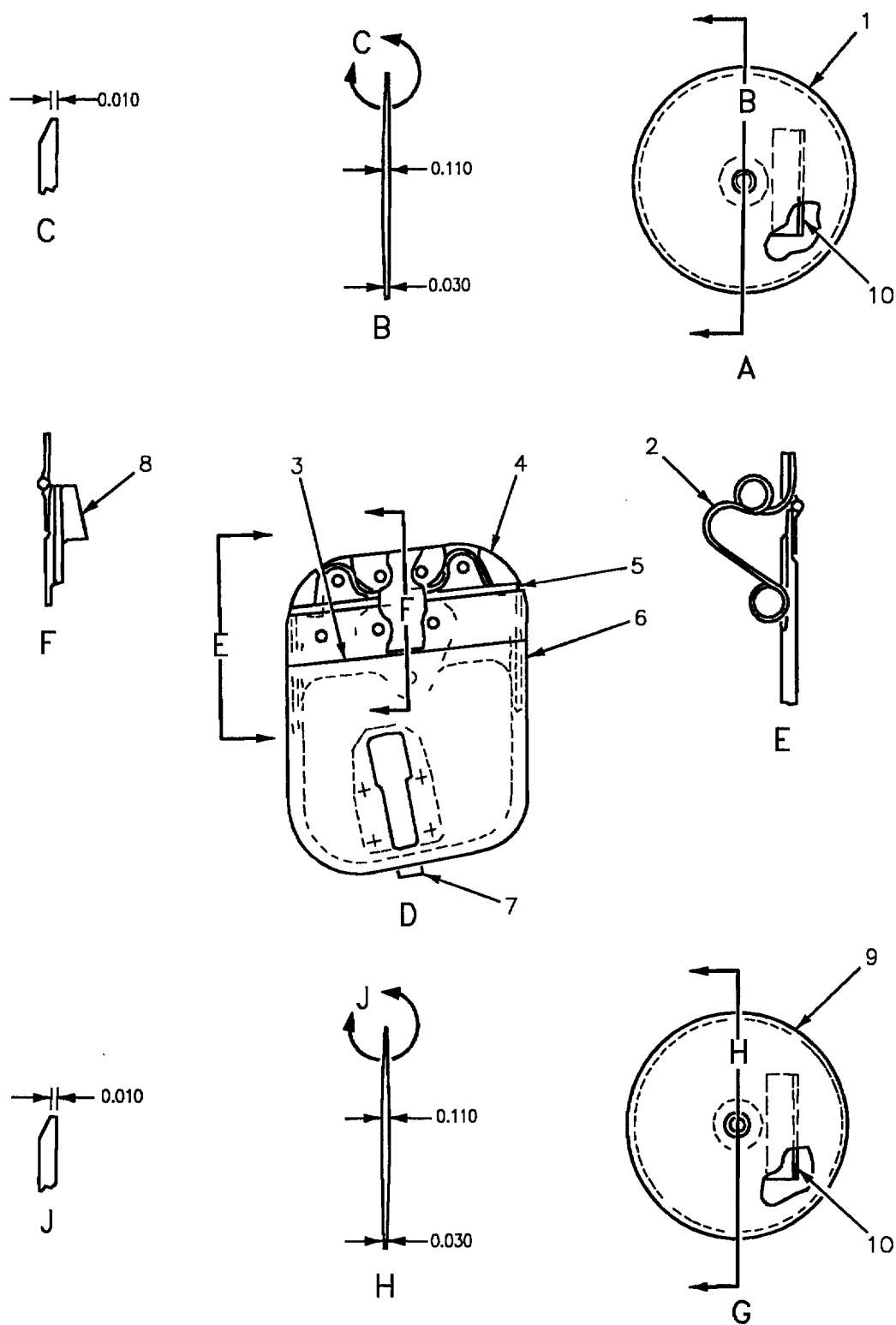


Figure 1. Material Index (Sheet 2)



IDX NO.	EFT	Nomenclature and Part No.	Description	Material
1		Cover (Door 20) 74A110917-2003	0.125 Sheet	7075-T7351 Alclad
2		Spring 74A110880-2001, -2002		
3		Door (Door 107) 74A110653-2037, -2038	0.375 Plate	7075-T7351 Alclad
4		Hinge Half 74A110653-2019, -2020	0.56 Sheet	2024-T8511 Al Aly
5		Hinge Pin MS20253P2-390	0.089 Wire	316 Cres
6		Hinge Half 74A110653-2021, -2022	0.56 Sheet	2024-T8511 Al Aly
7		Latch Assy 74B110056-2001		
8		Block 74A110653-2033	1MA160D05-10439 Extr	7075-T7351 Al Aly
9		Cover (Door 21) 74A110917-2003	0.125 Sheet	7075-T7351 Alclad
10		Retainer 74A110917-2005	1MA100D06-10270 Extr	7075-T76511 Al Aly
LEGEND				
 162826 and Up.				

Figure 1. Material Index (Sheet 3)

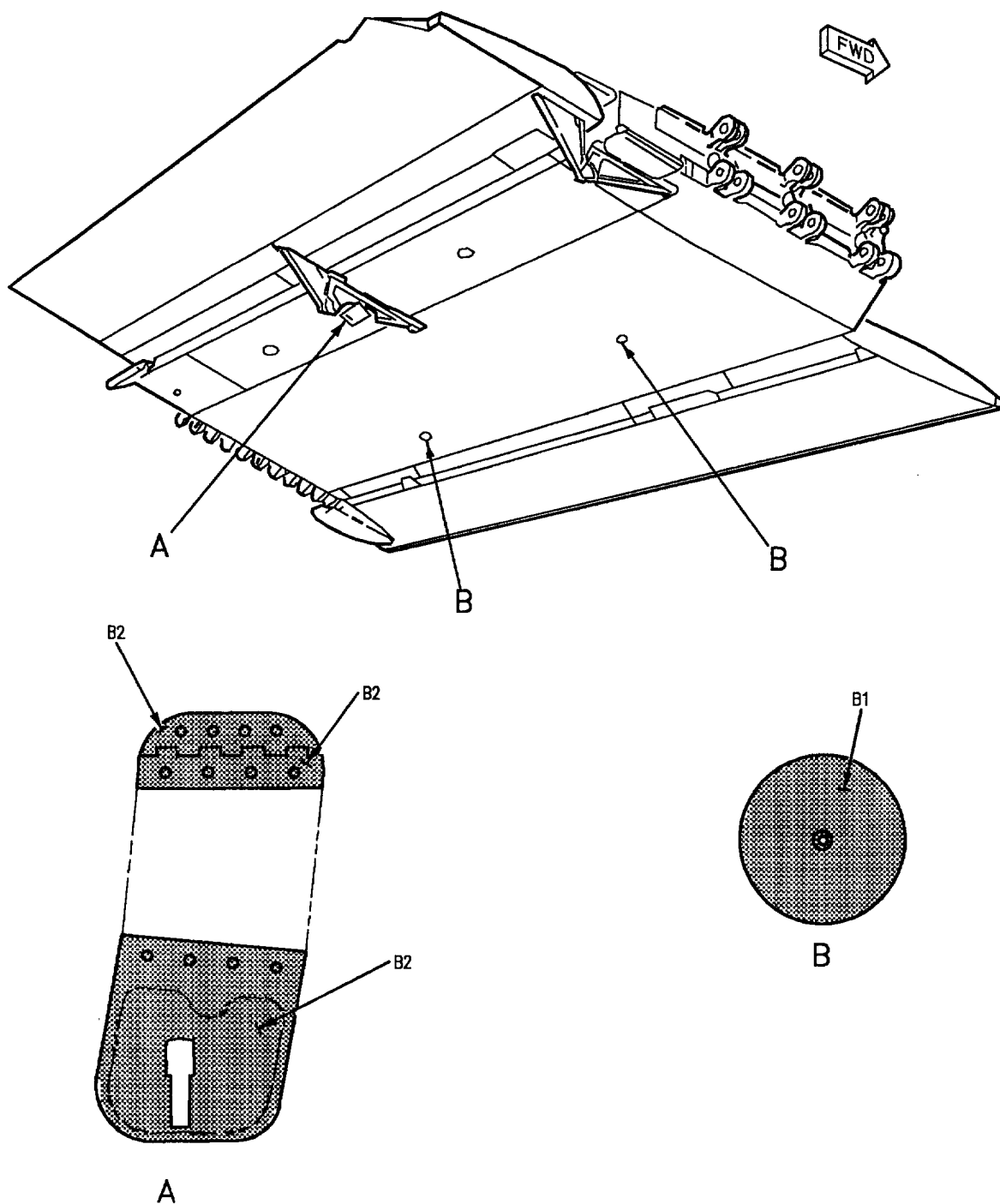


Figure 2. Repair Zones

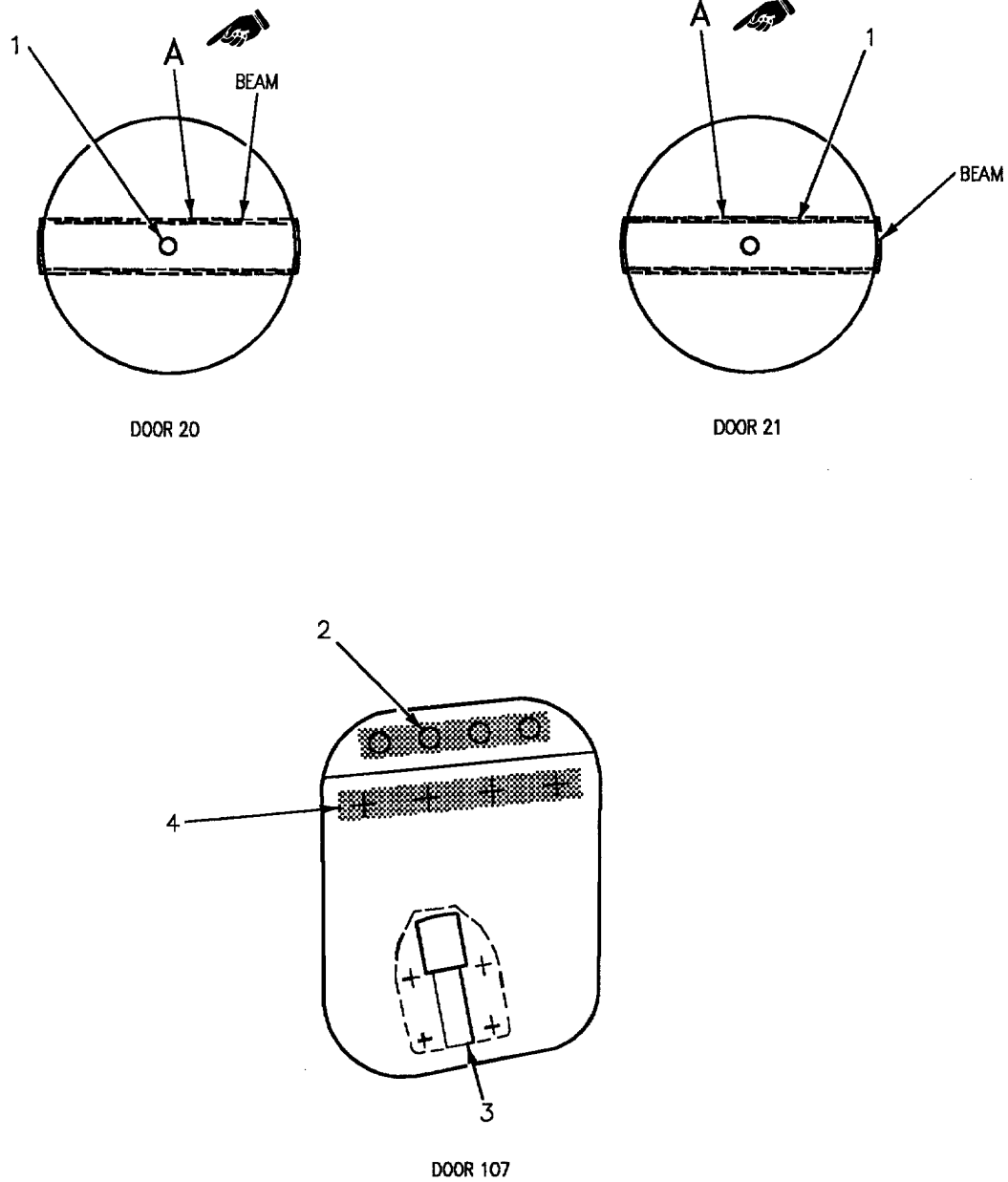


Figure 3. Covers (Door 20 and 21), Door (Door 107) Replacement (Sheet 1)

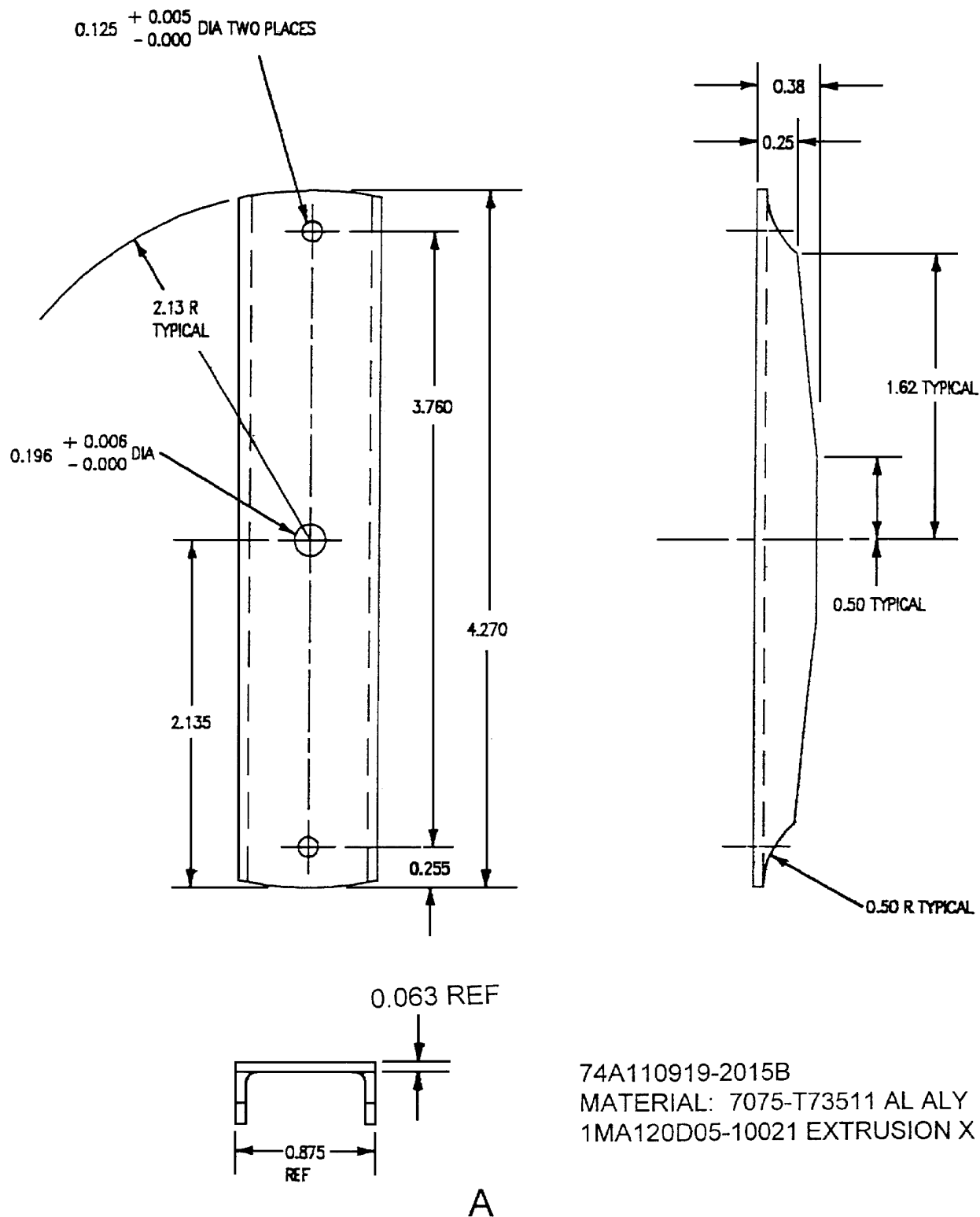


Figure 3. Covers (Door 20 and 21), Door (Door 107) Replacement (Sheet 2)

00600302












IDX NO.	EFT		Nomenclature	Part Number
1			Plate Nut Beam	F49249E3-6 74A110919-2015B
2			Bolt Nut Washer	HT4024L34-M NAS1291C3M AN960D10L
3			Latch  Rivet	74B110056-2001 MS20426AD3
4			 Rivet	CRS904B-5
<p style="text-align: center;">LEGEND</p> <p> Hole diameter is 0.1960 +0.0060 -0.0000.</p> <p> Hole diameter is 0.195 +0.007 -0.000.</p> <p> Hole diameter is 0.0980 +0.007 -0.000.</p> <p> Length of rivet is determined on installation.</p> <p> Hole diameter is 0.1570 +0.0070 -0.000.</p>				

Figure 3. Covers (Door 20 and 21), (Door 107) Replacement (Sheet 3)

ORGANIZATIONAL MAINTENANCE**STRUCTURE REPAIR****LOWER INNER WING EXTERNAL DOORS 146, 147, 149, 150, 194, 195, 196, 197, SEALS 74A110661 AND 74A110978**

Reference Material

Aircraft Corrosion Control	A1-F18AC-SRM-500
Form In Place Sealing	WP010 00
Inner and Outer Wing Finish System and Markings	WP027 00
Structure Illustrated Parts Breakdown - Wing	A1-F18AC-SRM-410
Flap, Wing Leading Edge - Inbd Instl of	FIG 012 00
Seal - Lower, LE Flap, Installation of	FIG 019 00
Structure Repair, General Information	A1-F18AC-SRM-200
Introduction	WP002 00
Locating Blind Holes and Trim Lines	WP004 03
Gang Channel and Plate Nut Identification and Repair	WP004 05
Fasteners	WP004 06
Structure Repair, Typical Repair	A1-F18AC-SRM-250
Titanium Patch Fabrication	WP006 03
Aluminum, Graphite Epoxy, or Titanium Patch Installation and Removal	WP007 00
Aluminum Sheet, Free of Structure and Land Areas	WP031 00
Titanium Sheet Free of Structure and Land Areas	WP032 00
Aluminum Sheet Edge Repair	WP034 00
Titanium Sheet Edge Repair	WP035 00
Aluminum Sheet Repairs Across Structure and Lands	WP036 00
Titanium Sheet Repairs, Across Structure and Lands	WP037 00
Blending	WP038 00
Aircraft Weapons System Cleaning and Corrosion Control	NAVAIR 01-1A-509

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Rework of Seal (Door 146, 147, 149, and 150)	4

Record of Applicable Technical Directives

Type/ Number	Date	Title and ECP No.	Date Incorp.	Remarks
F/A-18 AFC 27	-	Improvement of Leading Edge Flap Design (ECP MDA-F/A-18-00044)	1 Mar 87	-

Support Equipment Required

None

Materials Required

None

- DAMAGE EVALUATION.** See figures 1 and 2.
- Damage is classified as negligible and repairable. The types of material used are shown on figure 1. Repair zones are shown on figure 2. Allowable damage limits within repair zones are listed in tables 1 and 2. Locating and determining size of damage by visual method is organizational maintenance. Damage not listed or exceeding the limits listed below requires a depot engineering disposition.
- NEGLECTIBLE DAMAGE.** Negligible damage is damage that may be allowed to exist as is. However, preventive maintenance, for temporary corrosion arrestment, should be done to scratches (NAVAIR 01-1A-509). The types and limits of damage are listed below and in table 1. The figure and index numbers in table 1 coincide with the figure and index numbers in the material index.

a. Scratches are not allowed within one diameter from the edge of any hole.

b. Smooth dents only, effective diameter at least 20 times the depth.

- REPAIRABLE DAMAGE.** The types and limits of damage are listed below and in table 2. The figure and index numbers in table 2 coincide with figure and index numbers in the material index, figure 1.

NOTE

The limits in table 2 apply after blending the damage.

a. Scratches.

(1) Any scratches within one diameter of any hole must be blended out. Minimum blend out is one diameter from edge of any hole.

(2) Scratches to be blended out with diameter, or width, at surface at least 20 times the depth.

b. Nicks, gouges, and corrosion to be blended out with diameter, or width, at surface at least 20 times the depth.

c. Cracks. All cracks must be repaired.

d. Holes.

(1) Damage in areas free of structure and land must have edge of cleanup hole at least eight repair fastener diameters from any land, internal structure or existing row of fasteners.

(2) Damage to land, over structure, only one repair per land.

e. Dents exceeding the limits in table 1 must be repaired.

5. REPAIRS.

6. Types of repairs are temporary, one-time flight, permanent, critical area, alternate, and typical. Repair type definition are in structure repair terms (A1-F18AC-SRM-200, WP002 00).

WARNING

Installation of an overweight repair could cause failure of the doors, resulting in loss of life or injury. Engineering approval of repairs on the doors is required.

7. PERMANENT REPAIRS.

8. Scratches, Nicks, Gouges, or Corrosion.

Blend scratches, nicks, gouges, or corrosion (A1-F18AC-SRM-250, WP038 00). If, after blending, the damage limits of table 2 are exceeded, make an aluminum sheet repair. Refinish blended areas (A1-F18AC-SRM-500, WP027 00).

a. Scratches - make crack or edge repair.

b. Nicks, gouges, or corrosion - make hole or edge repair.

9. Cracks.

a. In repair zone A3, repair cracks free of structure or land areas in aluminum sheet (A1-F18AC-SRM-250, WP031 00) or in titanium sheet (A1-F18AC-SRM-250, WP032 00).

(1) Rout out damage.

(2) Install flush or lap patch.

(3) Refinish repaired area (A1-F18AC-SRM-500, WP027 00).

b. In repair zone B3, repair cracks free of structure or land areas in titanium sheet 0.027 inch thick or less.

(1) Completely cut out crack to the smallest diameter circle.

(2) Fabricate titanium patch (A1-F18AC-SRM-250, WP006 03).

(3) Install patch using FM300 adhesive (A1-F18AC-SRM-250, WP007 00).

(4) Refinish repaired area (A1-F18AC-SRM-500, WP027 00).

c. In repair zones A3, repair cracks across structure or land areas in aluminum sheet (A1-F18AC-SRM-250, WP036 00) or in titanium sheet (A1-F18AC-SRM-250, WP037 00).

(1) Cut out damage.

(2) Install flush or lap patch.

(3) Refinish repaired area (A1-F18AC-SRM-500, WP027 00).

10. Holes.

a. In repair zone A3, repair holes free of structure or land areas in aluminum sheet (A1-F18AC-SRM-250, WP031 00).

(1) Cut out damage.

(2) Install type one flush or lap patch.

(3) Refinish repaired area (A1-F18AC-SRM-500, WP027 00).

b. In repair zone B3, repair holes free of structure or land areas in titanium sheet 0.027 inch thick or less.

(1) Completely cut out damage to the smallest diameter circle.

(2) Fabricate titanium patch (A1-F18AC-SRM-250, WP006 03).

(3) Install patch using FM300 adhesive (A1-F18AC-SRM-250, WP007 00).

(4) Refinish repaired area (A1-F18AC-SRM-500, WP027 00).

c. In repair zone A3, repair holes across structure or land areas in aluminum sheet (A1-F18AC-SRM-250, WP036 00) or in titanium sheet (A1-F18AC-SRM-250, WP037 00).

(1) Cut out damage.

(2) Install flush or lap patch.

(3) Refinish repaired area (A1-F18AC-SRM-500, WP027 00).

11. **Edge.** In repair zone A3, repair edge damage in aluminum sheet (A1-F18AC-SRM-250, WP034 00) or in titanium sheet (A1-F18AC-SRM-250, WP035 00).

a. Cut out damage.

b. Select repair patch (A1-F18AC-SRM-250, WP034 00 or WP035 00).

(1) Corner Damage to Lands.

(2) Corner Damage to Lands and Bays.

(3) Edge Damage to Lands.

(4) Edge Damage to Lands and Bays.

(5) Full Width Damage to End.

c. Refinish repaired area (A1-F18AC-SRM-500, WP027 00).

12. Dents.

a. In repair zone A3, repair dents free of structure or land areas in aluminum sheet (A1-F18AC-SRM-250, WP031 00) or titanium sheet (A1-F18AC-SRM-250, WP032 00).

(1) Cut out damage.

(2) Install type one flush or lap patch.

(3) Refinish repaired area (A1-F18AC-SRM-500, WP027 00).

b. In repair zone B3, repair dents free of structure or land areas in titanium sheet 0.027 inch thick or less.

(1) Completely cut out damage to smallest diameter circle.

(2) Fabricate titanium patch (A1-F18AC-SRM-250, WP006 03).

(3) Install patch using FM300 adhesive (A1-F18AC-SRM-250, WP007 00).

(4) Refinish repaired area (A1-F18AC-SRM-500, WP027 00).

c. In repair zone A4, repair dents across structure or land areas in aluminum sheet (A1-F18AC-SRM-250, WP036 00) or in titanium sheet (A1-F18AC-SRM-250, WP037 00).

(1) Cut out damage.

(2) Install flush or lap patch.

(3) Refinish repaired area (A1-F18AC-SRM-500, WP027 00).

13. REWORK OF SEAL (DOOR 146, 147, 149, AND 150). See figure 5.

a. Trim seal to allowable gaps, views A and B.

b. Refinish trimmed edge (A1-F18AC-SRM-500, WP027 00).

14. REPLACEMENT.

15. **SEAL (DOOR 146).** See figure 4. Seal is replaceable and requires trimming. For seal gap and mismatch see figure 5. For method of locating trim lines (A1-F18AC-SRM-200, WP004 03). Fastener attaching hardware is shown. For form in place sealing (A1-F18AC-SRM-500, WP010 00). For repair of gang channel, replacement rivets attaching gang channel, and bonding with EA9309 A/B adhesive (A1-F18AC-SRM-200, WP004 05). For fasteners (A1-F18AC-SRM-410, FIG 012 00).

16. **SEAL (DOOR 147).** Seal is replaceable and requires trimming and drilling. For seal gap and mismatch see figure 5. For method of locating blind holes and trim lines (A1-F18AC-SRM-200, WP004 03). Fasteners attaching hardware is shown on figure 4. For form in place sealing (A1-F18AC-SRM-500, WP010 00). For repair of gang channel, replacement rivets attaching gang channel, and bonding with MIL-S-8802 sealing compound (A1-F18AC-SRM-200, WP004 05). For fasteners (A1-F18AC-SRM-410, FIG 0012 00).

17. **SEAL (DOOR 149).** On 161353 thru 161519, seal is replaceable and requires trimming and drilling. For seal gap and mismatch see figure 5. For method of locating blind holes and trim lines (A1-F18AC-SRM-200, WP004 03). On 161520 and Up, seal is interchangeable. Fastener attaching hardware is shown on figure 4. For form in place sealing (A1-F18AC-SRM-500, WP010 00). For repairs of gang channel and replacement rivets attaching gang channel (A1-

F18AC-SRM-200, WP004 05). For fasteners (A1-F18AC-SRM-410, FIG 012 00).

18. **SEAL (DOOR 150).** Seal is replaceable and requires trimming. For seal gap and mismatch see figure 5. For method of locating trim lines (A1-F18AC-SRM-200, WP004 03). Fastener attaching hardware is shown on figure 4. For form in place sealing (A1-F18AC-SRM-500, WP010 00). For repairs of gang channel and replacement rivets attaching gang channel (A1-F18AC-SRM-200, WP004 05). For fasteners (A1-F18AC-SRM-410, FIG 012 00).

19. **SEAL (DOOR 194 OR 74A110661 OR 74A110978).** Seal is replaceable and requires trimming and drilling. For method of locating blind holes and trim lines (A1-F18AC-SRM-200, WP004 03). For removal and installation of Hi-Lok fasteners (A1-F18AC-SRM-200, WP004 06). Fasteners are shown on figure 3, detail A. For form in place seal (A1-F18AC-SRM-500, WP010 00).

20. **SEAL (DOOR 195, OR 74A110661, OR 74A110978).** Seal is replaceable and requires trimming and drilling. For method of locating blind holes and trim lines (A1-F18AC-SRM-200, WP004 03). For removal and installation of Hi-Lok fasteners (A1-F18AC-SRM-200, WP004 06). Fasteners and fastener attaching hardware is shown on figure 3, detail B. For form in place sealing (A1-F18AC-SRM-200, WP004 05). For





























fasteners not shown on figure 3, detail B (A1-F18AC-SRM-410, FIG 019 00).

21. **SEAL (DOOR 196 OR 74A110661 OR 74A110978).** Seal is replaceable and requires trimming and drilling. For method of locating blind holes and trim lines (A1-F18AC-SRM-200, WP004 03). Fastener attaching hardware is shown on figure 3, detail C. For repairs of gang channel and replacement rivets attaching gang channel (A1-F18AC-SRM-200, WP004 05). For fasteners (A1-F18AC-SRM-410, FIG 019 00).


22. **SEAL (DOOR 197 OR 74A110661 OR 74A110978).** Seal is replaceable and requires trimming and drilling. For method of locating blind holes and trim lines (A1-F18AC-SRM-200, WP004 03). For removal and installation of Hi-Lok fasteners (A1-F18AC-SRM-200, WP004 06). Fasteners and fastener attaching hardware is shown on figure 3, detail D. For form in place sealing (A1-F18AC-SRM-500, WP010 00). For repairs of platenuts and replacement rivets attaching plate nuts (A1-F18AC-SRM-200, WP004 05). For fasteners not shown on figure 3, detail D (A1-F18AC-SRM-410, FIG019 00). Install clip (20) and stiffener (21) on new seal.

- (a) Mate drill clip (20) and stiffener (21) with seal.
- (b) Install pin and collar to clip (20) and seal.
- (c) Install pin and collar to stiffener (21) and seal.

Table 1. Negligible Damage Limits

Fig No Index No	Nomen/ Repair Zone	Thickness	Scratch Depth	Nicks Gouges		Dents Depth	Rivet Tilt
				Depth	Area		
Fig 1 (1)	Seal Zone A3 Zone B3	0.112 0.027	0.002 0.0006	0.002 0.0006	100% 100%	 0.013	 
Fig 1 (2)	Seal Zone B3	0.063	0.0006	0.006	80%		
Fig 1 (3)	Seal Zone A3 Zone C3	0.112 0.027	0.002 0.0006	0.002 0.0006	100% 100%	 	 
Fig 1 (4)	Seal Zone C3	0.063 0.044	0.0006 0.004	0.0006 0.004	80% 80%	 0.022	 
Fig 1 (5) 	Seal Zone A3 Zone C3	0.100 0.030 to 0.045	0.002 0.0006	0.002 0.0006	100% 100%	 0.015	 
Fig 1 (6) 	Seal Zone A3	0.100 0.030 to 0.045	0.002 0.0006	0.002 0.0006	100% 100%	 0.015	 
Fig 1 (7)	Seal Zone B3 Zone C3	0.063 0.037 0.036 0.032	0.0006 0.0006 0.0006 0.0006	0.0006 0.0006 0.0006 0.0006	80% 80% 80% 80%	 0.016 0.016 0.016	   
Fig 1 (8)	Seal Zone C3	0.063 0.030	0.0006 0.0006	0.0006 0.0006	80% 80%	 0.018	 

NOTES

 Tapered.





 None allowed.

Table 2. Repairable Damage Limits After Blending

Fig No Idx No	Nomen/ Repair Zone	Thickness	Scratch Depth	Nicks Gouges		Corrosion	
				Depth	Area	Depth	Area
Fig 1 (1)	Seal Zone A3 Zone B3	0.112 0.027	0.022 0.005	0.022 0.005	70% 50%	0.022 0.005	70% 50%
Fig 1 (2)	Seal Zone B3	0.063	0.012	0.012	80%	0.012	80%
Fig 1 (3)	Seal Zone A3 Zone C3	0.112 0.027	0.022 0.002	0.022 0.002	70% 50%	0.022 0.002	70% 50%
Fig 1 (4)	Seal Zone C3	0.063 0.044	0.012 0.008	0.012 0.008	80% 80%	0.012 0.008	80% 80%
Fig 1 (5) 	Seal Zone A3 Zone C3	0.100 0.030 to 0.045	0.020 0.004	0.020 0.004	70% 20%	0.020 0.004	70% 20%
Fig 1 (6) 	Seal Zone A3	0.100 0.030 to 0.045	0.020 0.005	0.020 0.005	70% 50%	0.020 0.005	70% 50%
Fig 1 (7)	Seal Zone B3 Zone C3	0.063 0.037 0.036 0.032	0.012 0.006 0.006 0.006	0.012 0.006 0.006 0.006	80% 80% 80% 80%	0.012 0.006 0.006 0.006	80% 80% 80% 80%
Fig 1 (8)	Seal Zone C3	0.063 0.030	0.012 0.006	0.012 0.006	80% 80%	0.012 0.006	80% 80%

NOTES

 Tapered.

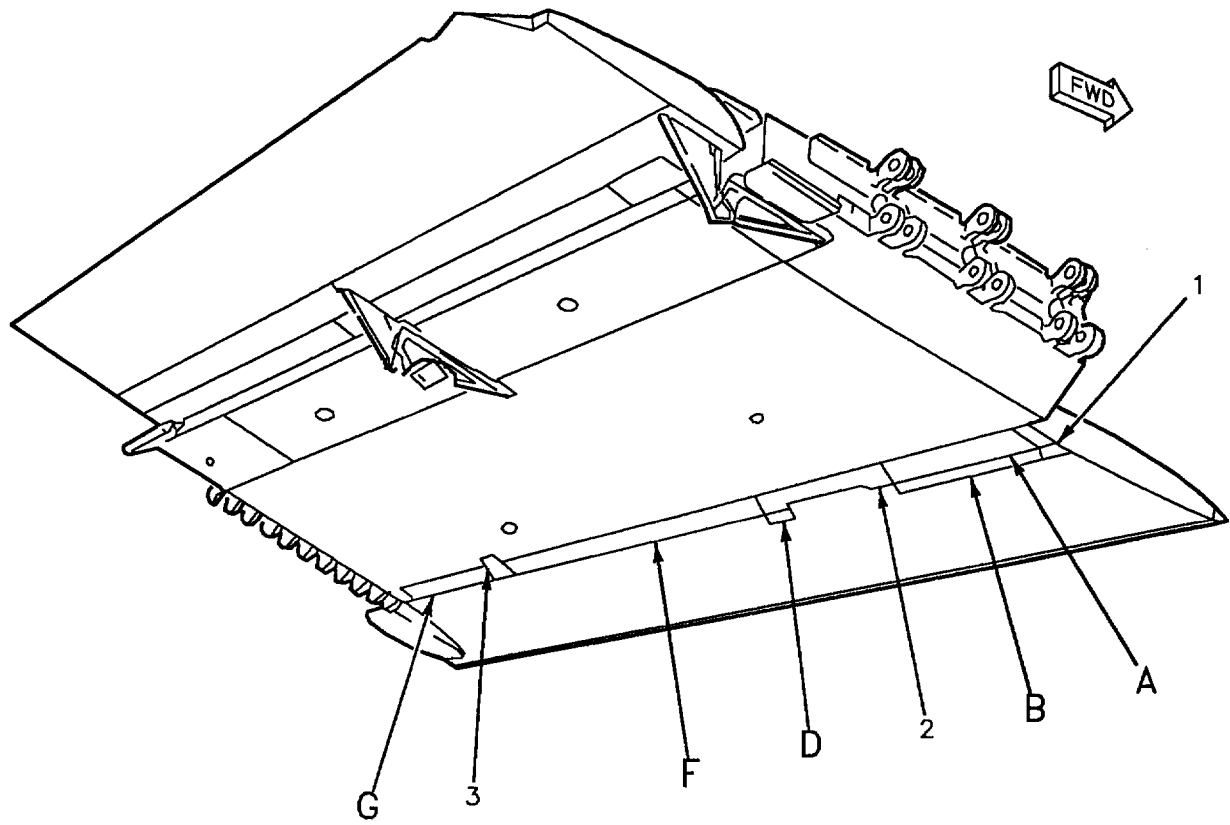


Figure 1. Material Index (Sheet 1)

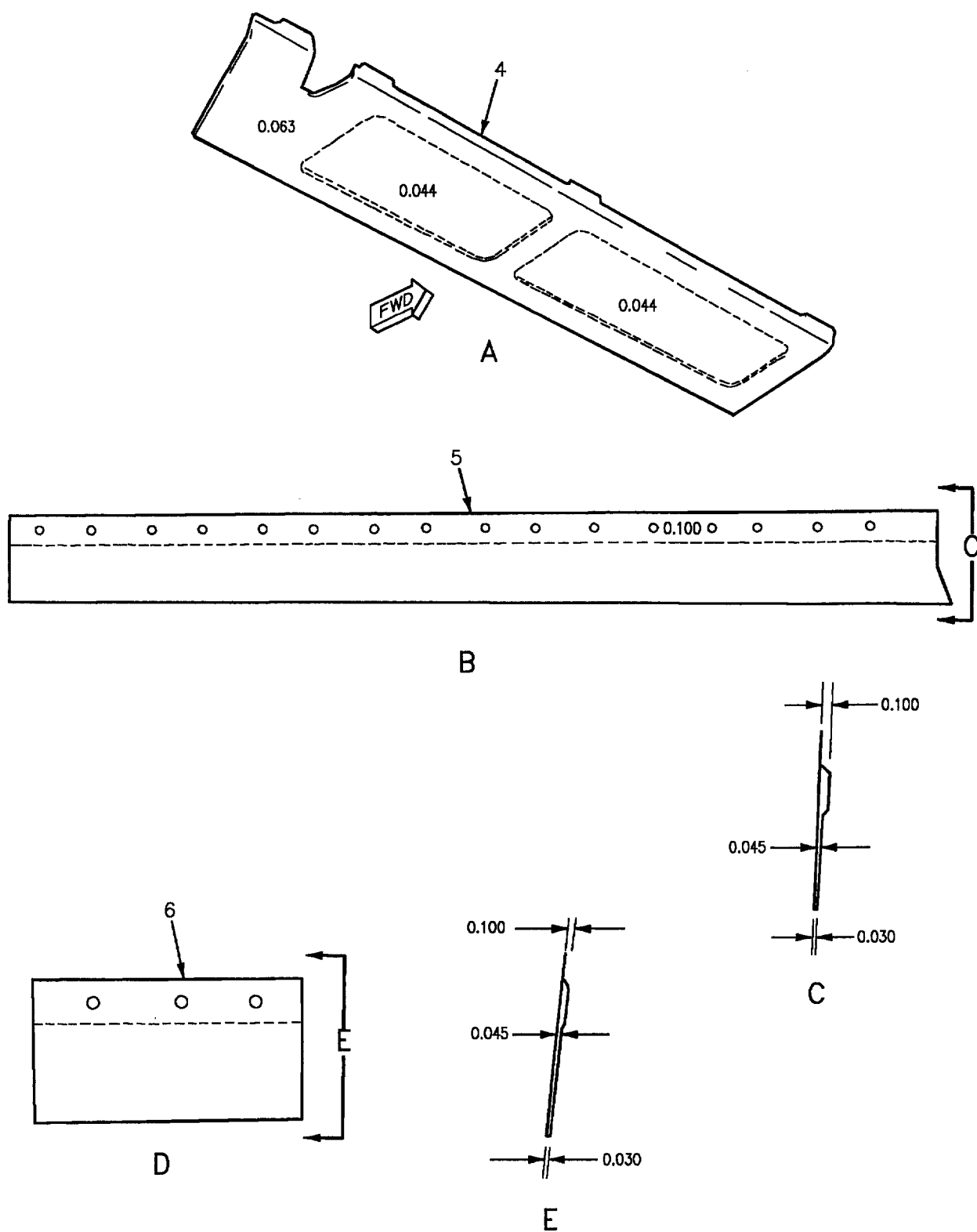


Figure 1. Material Index (Sheet 2)

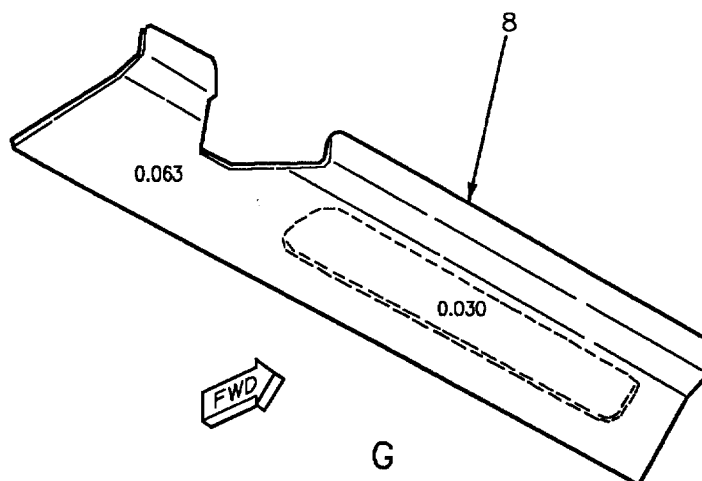
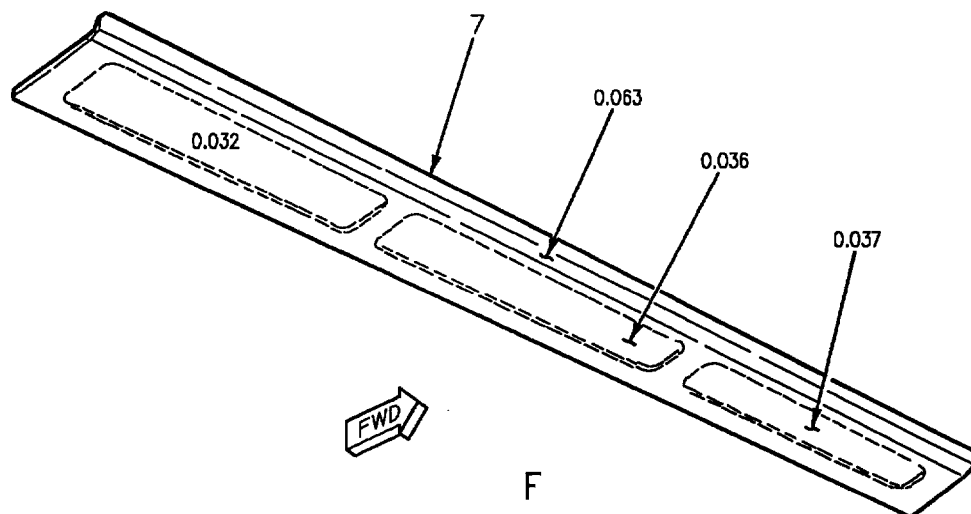


Figure 1. Material Index (Sheet 3)

IDX NO.	EFT	Nomenclature/ and Part No.	Description	Material
1	<div>1</div> <div>3</div>	Seal (Door 146) 74A190626-2003, -2004 74A190626-2005, -2006	<div>2</div>	6Al-4V Ti Anl
2	<div>7</div> <div>8</div>	Seal (Door 196) <div>4</div> 74A110661-2003, -2004 74A110978-2003, -2004	0.063 Sheet	7075-T76 Alclad
3		Seal (Door 150) 74A190622-2003, -2004	<div>2</div>	6Al-4V Ti Anl
4	<div>1</div> <div>3</div>	Seal (Door 197) <div>4</div> 74A110661-2013, -2014 74A110978-2001, -2002	0.063 Sheet	7075-T6 Alclad
5	<div>1</div> <div>9</div> <div>10</div>	Seal (Door 147) 74A190608-2003, -2004 74A190608-2005, -2006 74A190608-2007, -2008	0.100 Sheet	7075-T6 Alclad
6	<div>1</div> <div>5</div> <div>6</div>	Seal (Door 149) 74A190631-2001, -2002 74A190631 2003, -2004 74A190631-2005, -2006	0.100 Sheet 0.100 Sheet	7075-T76 Alclad 6Al-4V (ELI) Ti Anl
7	<div>7</div> <div>8</div>	Seal (Door 195) <div>4</div> 74A110661-2015, -2016 74A110978-2005, -2006	0.063 Sheet	7075-T6 Alclad
8	<div>7</div> <div>8</div>	Seal (Door 194) <div>4</div> 74A110661-2017, -2018 74A110978-2007, -2008	0.063 Sheet	7075-T6 Alclad
<p style="text-align: center;">LEGEND</p> <div>1</div> 161353 thru 161519. <div>2</div> Fastener land is 0.112, remaining is 0.027. <div>3</div> 161520 and Up. <div>4</div> 161353 only. <div>5</div> 161520 thru 162868, 162898, 163092. <div>6</div> 162869 thru 162897, 162899 thru 162909, 163093 and Up. <div>7</div> 161353 thru 161519 before F18 AFC 27. <div>8</div> 161520 and Up; 161353 thru 161519 after F18 AFC 27. <div>9</div> 161520 thru 163150. <div>10</div> 163151 and Up.				

Figure 1. Material Index (Sheet 4)

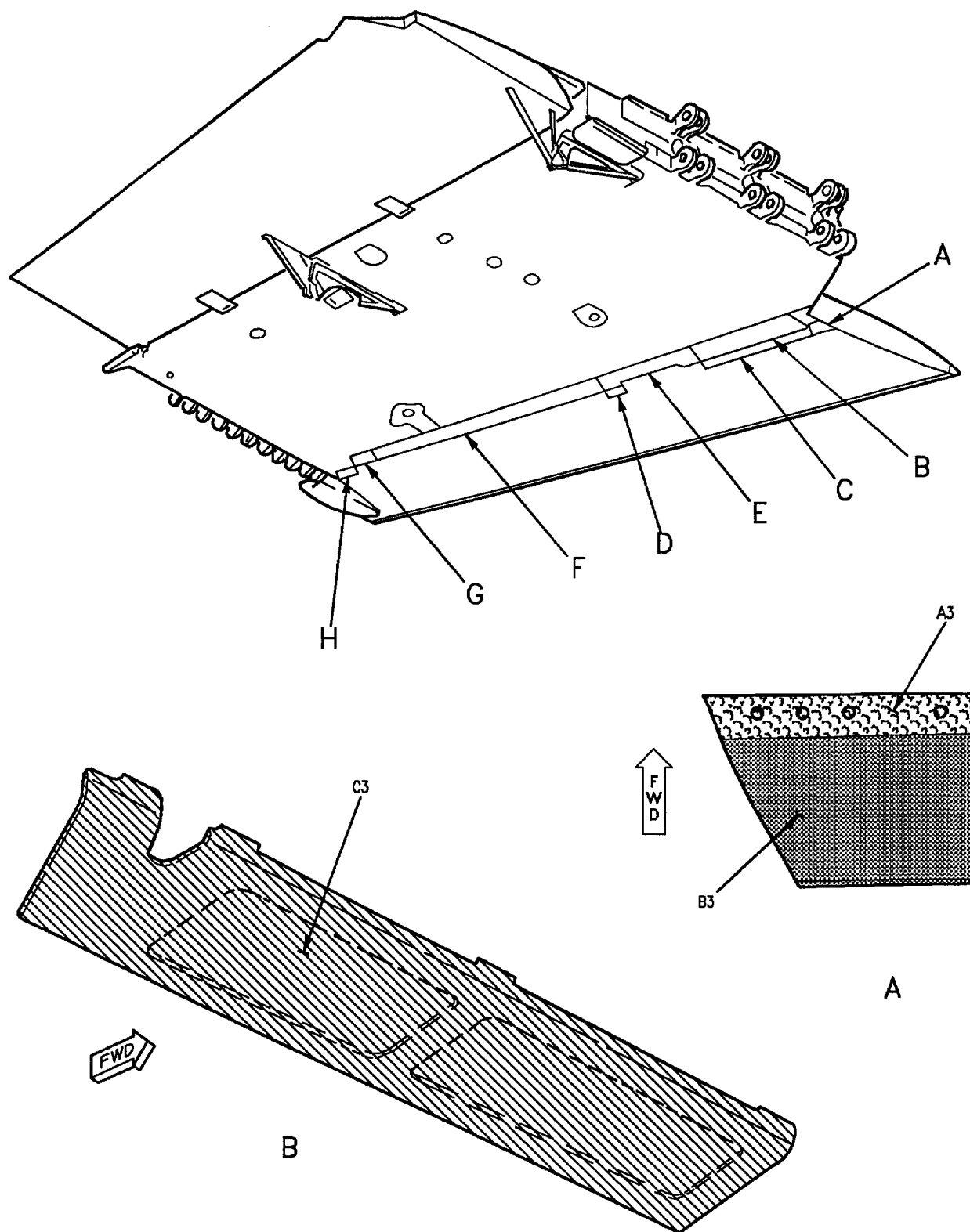


Figure 2. Repair Zones (Sheet 1)

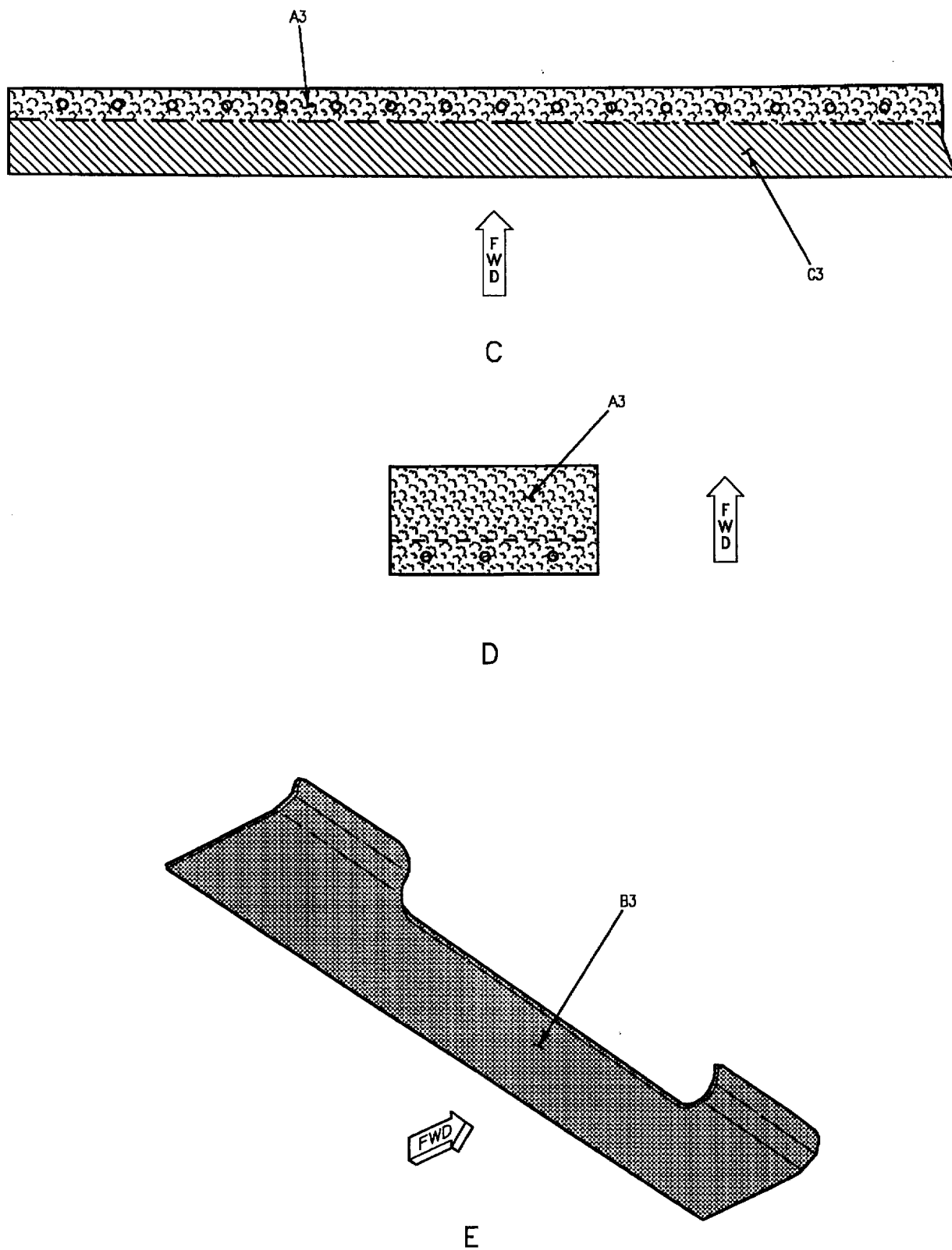


Figure 2. Repair Zones (Sheet 2)

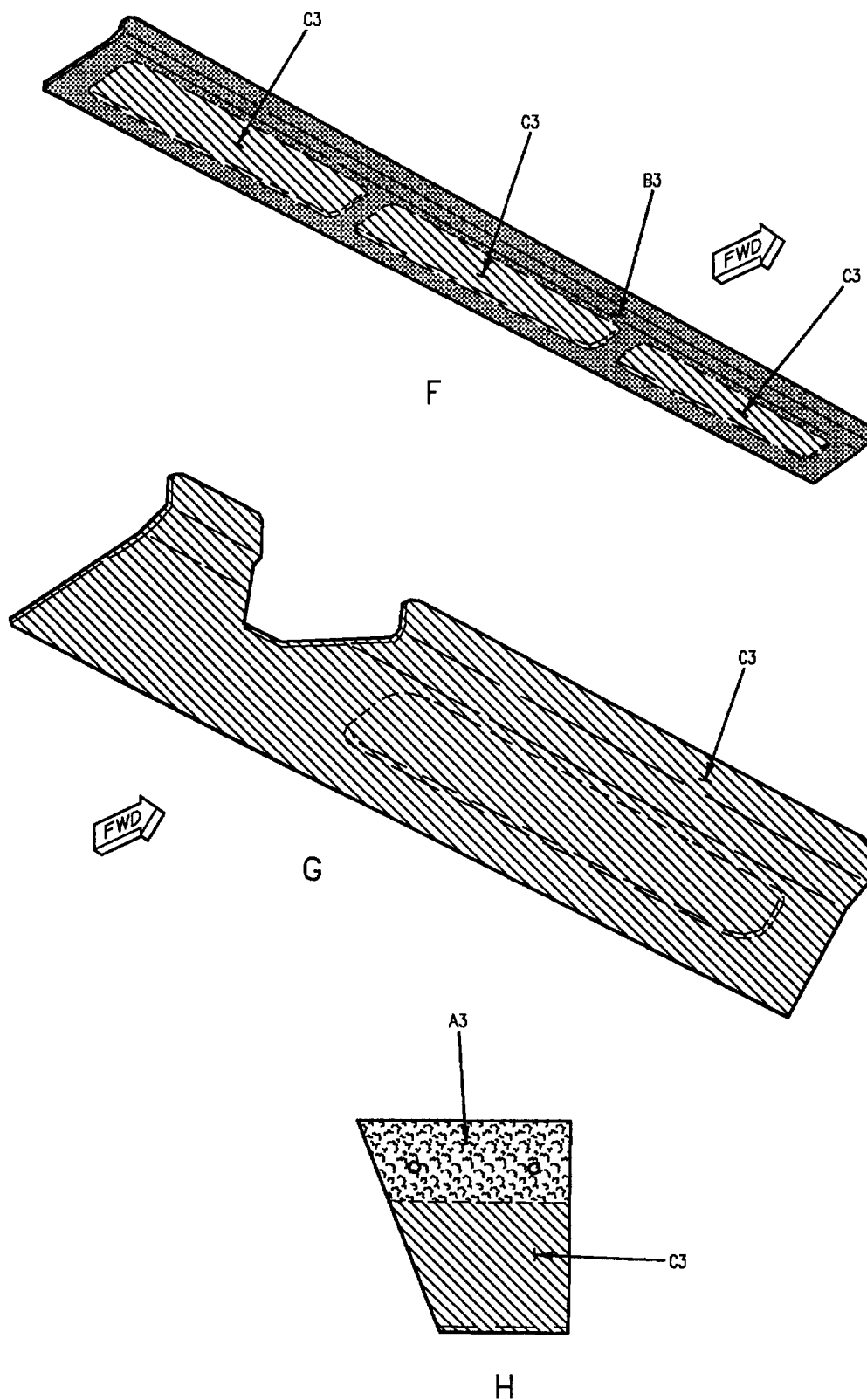
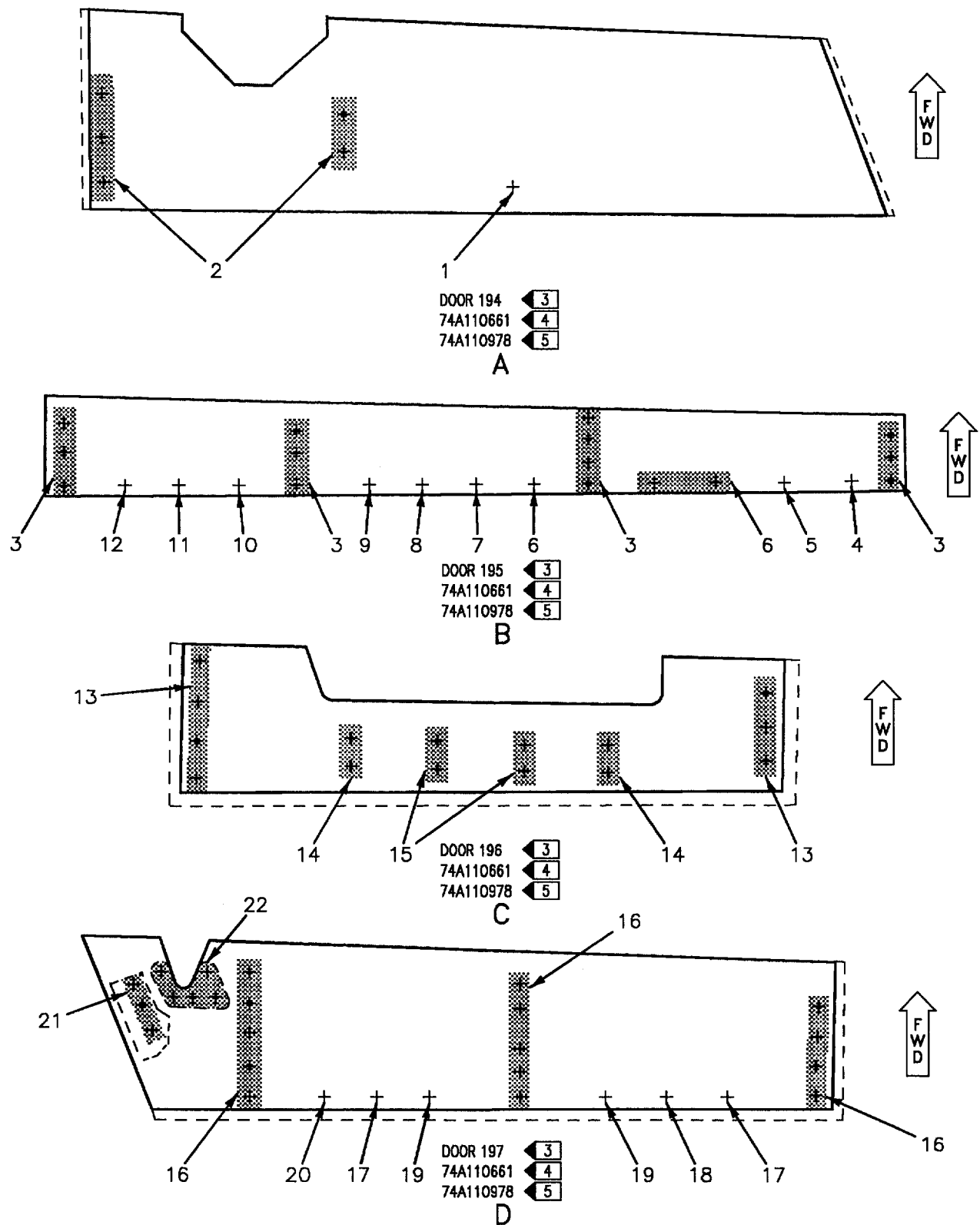









Figure 2. Repair Zones (Sheet 3)



06010301

Figure 3. Seal 74A110661, 74A110978, or (Door 194, 195, 196, and 197) Replacement (Sheet 1)

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1			Nut Retainer Shim	CN51087-3 F51088-1 74A110866-2461
2			Pin Spacer Washer Collar	HLT311DL-6-3 NAS43DD3-6 4M36-01006 HL570-6MC
3			Pin Spacer Washer Collar	HLT311DL-6-3 NAS43DD3-6 4M36-01006 HL570-6MC
4			Nut Retainer Spacer	CN51087-3 F51088-1 74A110866-3509 74A110866-3531
5			Nut Retainer Spacer	CN51087-3 F51088-1 74A110866-3513 74A110866-3515
6			Nut Retainer Spacer	CN51087-3 F51088-1 74A110866-3515
7		L R	Nut Retainer Spacer Bracket Bracket	CN51087-3 F51088-1 74A110866-3515 74A110656-2074 74A110656-2073
8		L R	Nut Retainer Spacer Spacer Bracket Bracket	CN51087-3 F51088-1 74A110866-3517 74A110866-3525 74A110656-2073 74A110656-2074
9			Nut Retainer Spacer Spacer	CN51087-3 F51088-1 74A110866-3517 74A110866-3525
10			Nut Retainer Spacer Spacer	CN51087-3 F51088-1 74A110866-3519 74A110866-3531
11			Nut Retainer Spacer Spacer	CN51087-3 F51088-1 74A110866-3521 74A110866-3531

**Figure 3. Seal 74A110661, 74A110978 or (Door 194,195,196 and 197) Replacement
(Sheet 2)**

















IDX NO.	EFT		Nomenclature	Part Number
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13			Spacer Washer Nut	NAS43DD3-6 4M36-01006 NAS1291C3M
14			Gang Channel Shim Spacer	G12094J3-8 74A110866-2683 74A110925-2015
15			Gang Channel Shim Spacer	G12094J3-8 74A110866-2683 74A110925-2013
16			Pin Spacer Washer Collar	HLT311DL-6-3 NAS43DD3-6 4M36-01006 HL570-6MC
17			Nut Retainer Spacer	CN51087-3 F51088-2 74A110866-3525
18			Nut Retainer Spacer	CN51087-3 F51088-2 74A110866-3527 74A110866-3531
19			Nut Retainer Spacer	CN51087-3 F51088-2 74A110866-3529
20			Nut Retainer Spacer	CN51087-3 F51088-2 74A110866-3511 74A110866-3515
21	 		Clip Pin Pin Collar	74A110925-2025, -2026 HLT311DL-6-2 HLT51DL-6-2 HL570-6MC
22			Stiffener Stiffener Pin Collar	74A110661-2007 74A110661-2008 HLT51DL-6-2 HL570-6MC
<p style="text-align: center;">LEGEND</p> <p> Hole diameter is 0.191 +0.006 -0.000.</p> <p> Hole diameter is 0.195 +0.007 -0.000.</p> <p> 161353 only.</p>				

Figure 3. Seal 74A110661, 74A110978 or (Door 194,195,196 and 197) Replacement (Sheet 3)

IDX NO.	EFT		Nomenclature	Part Number
4			161353 thru 161519.	
5			161520 and Up.	

**Figure 3. Seal 74A110661, 74A110978 or (Door 194, 195, 196 and 197) Replacement
(Sheet 4)**

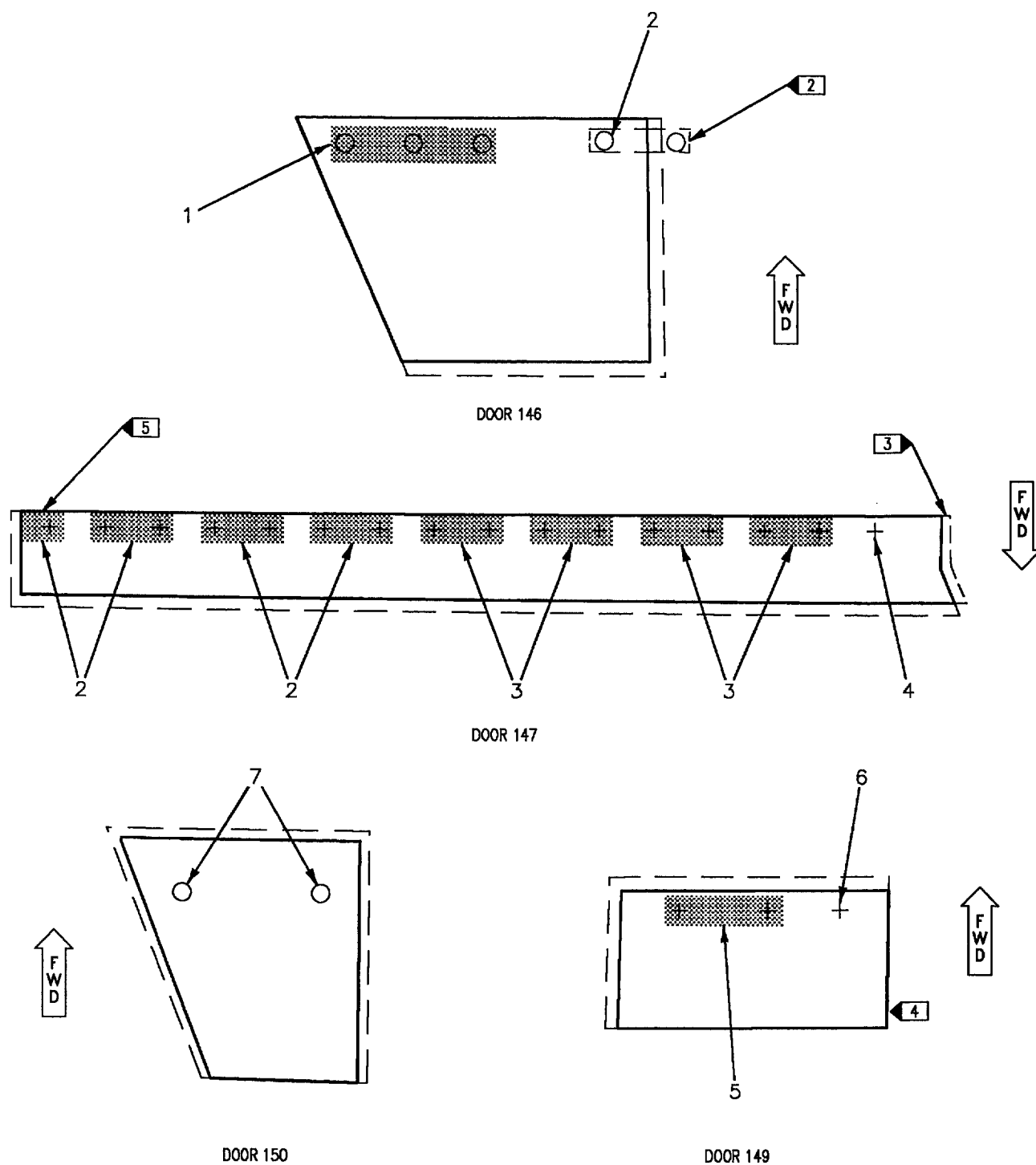


Figure 4. Seal (Door 146, 147, 149, and 150) Replacement (Sheet 1)


















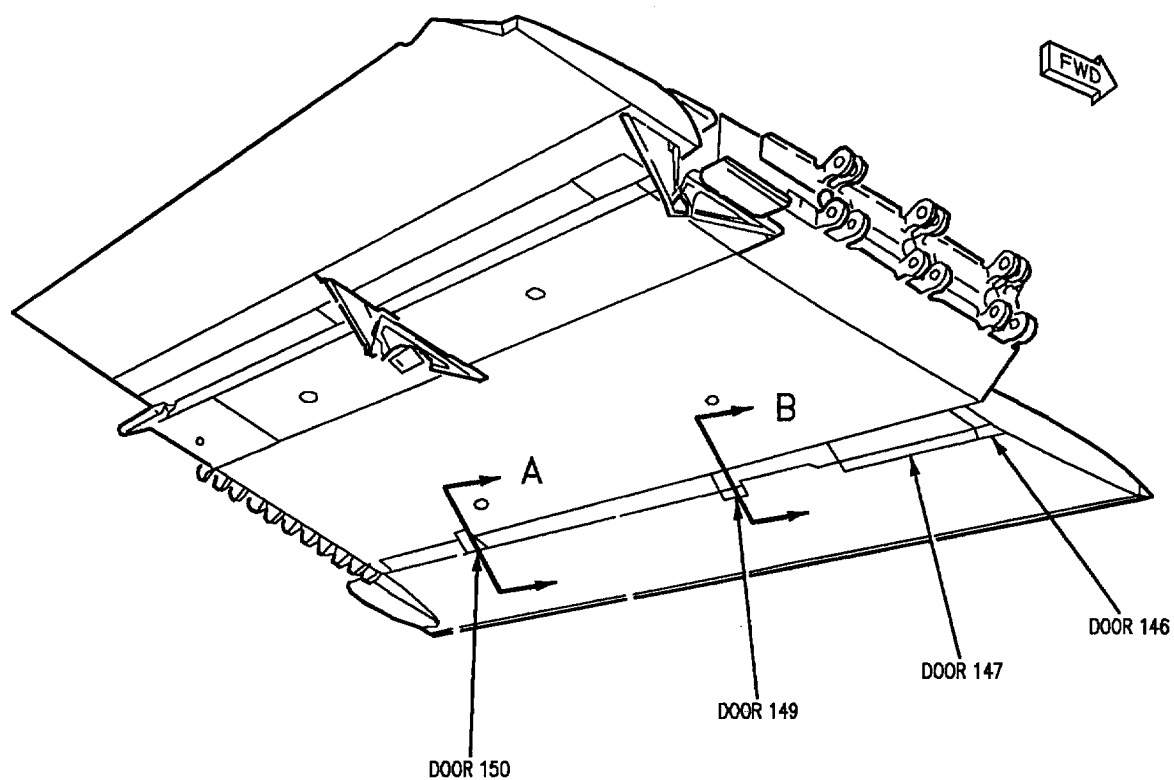
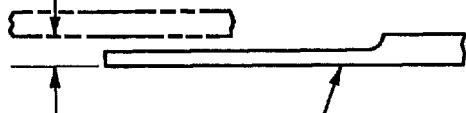
IDX NO.	EFT		Nomenclature	Part Number
1			Gang Channel	G51061-4-11
2			Gang Channel	G51061-4-14
3			 Gang Channel	G51061-4-14
4			Plate Nut	F50405-4
5			 Plate Assy	74A190002-2003
6			 Gang Channel	G50344-4-1-14
7			Plate Nut	F5034C-4-1
<p style="text-align: center;">LEGEND</p> <p> Hole diameter is 0.255 +0.007 -0.000.</p> <p> Gang channel is used with (Door 147).</p> <p> Trim on outboard end only 161520 and Up.</p> <p> Holes drilled full size 161520 and Up.</p> <p> Gang channel is used with (Door 146).</p> <p> Attached by bonding with MIL-S-8802, riveting not permitted.</p> <p> Attached by bonding with EA9309A/B and riveting.</p>				

Figure 4. Seal (Door 146, 147, 149 and 156) Replacement (Sheet 2)



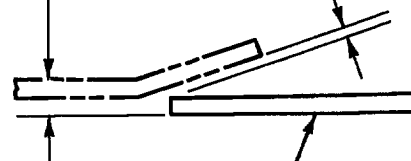
0.06 MAX AFT
MISMATCH



DOOR 146
DOOR 150

A

0.06 MAX AFT
MISMATCH



DOOR 147
DOOR 149

B

Figure 5. Seal (Door 146, 147, 149 and 150) Gap and Mismatch

ORGANIZATIONAL MAINTENANCE**STRUCTURE REPAIR****TRAILING EDGE FLAP SHROUD**

Reference Material

Aircraft Corrosion Control	A1-F18AC-SRM-500
Chemical Treatment	WP008 00
Priming Procedures	WP011 00
Inner and Outer Wing Finish System and Markings	WP027 00
Line Maintenance Procedures	A1-F18AC-LMM-000
Nondestructive Inspection	A1-F18AC-SRM-300
Flap Shroud, Water in Honeycomb	WP015 00
Structure Repair, General Information	A1-F18AC-SRM-200
Introduction	WP002 00
Fasteners	WP004 06
Adhesive, Cement, and Sealant, Preparation and Application	WP011 00
Structure Repair, Typical Repair	A1-F18AC-SRM-250
Water Removal	WP005 00
Aluminum or Titanium Skin and Aluminum Honeycomb Core, Class X Damage (Refer to Water Removal) Aluminum Patch Fabrication	WP006 01
Aluminum, Graphite Epoxy, or Titanium Patch Installation and Removal	WP007 00
Aluminum or Titanium Skin and Aluminum Honeycomb Core, Class I Damage Repair	WP022 00
Aluminum or Titanium Skin and Aluminum Honeycomb Core, Class II Damage Repair	WP023 00
Aluminum or Titanium Skin and Aluminum Honeycomb Core, Class III Damage Repair	WP024 00
Aluminum or Titanium Skin and Aluminum Honeycomb Core, Class IV Damage Repair	WP025 00
Aluminum or Titanium Skin and Aluminum Honeycomb Core, Class V Damage Repair	WP026 00
Aluminum or Titanium Skin and Aluminum Honeycomb Core, Class VI Damage Repair	WP027 00
Aluminum or Titanium Skin and Aluminum Honeycomb Core, Class VII Damage Repair	WP028 00
Aluminum or Titanium Skin and Aluminum Honeycomb Core, Class VIII Damage Repair	WP029 00
Aluminum or Titanium Skin and Aluminum Honeycomb Core, Class IX Damage Repair	WP030 00
Aluminum Sheet, Free of Structure and Land Areas	WP031 00
Aluminum and Titanium Sheet, Formed Structure	WP033 00
Aluminum Sheet Edge Repair	WP034 00
Aluminum Sheet Repairs Across Structure and Lands	WP036 00
Blending	WP038 00
Aircraft Weapons System Cleaning and Corrosion Control	NAVAIR 01-1A-509

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Record of Applicable Technical Directives

None

1. ALUMINUM SKIN AND ALUMINUM HONEYCOMB CORE.

Support Equipment Required

None

Materials Required

None

2. **DAMAGE EVALUATION.** See figures 1, 3, and 4. Damage is classified as negligible and repairable. Locating and determining size of damage by visual method is organizational maintenance. Locating and determining size of damage by NDI method is intermediate maintenance. Damage not listed or exceeding the limits listed below requires a depot engineering disposition.

3. **Negligible Damage.** See figure 3. Negligible damage is damage which does not exceed the type and limits listed below and may be allowed to exist as is.

a. Smooth dents free of sharp corners and abrasions.

(1) Depth is no more than 0.015 inch.

(2) Diameter is not more than 0.5 inch.

(3) No more than three dents occur in any 3.0 inch diameter circle.

(4) No more than six dents occurring in any 10 inch diameter circle.

(5) Dents occurring in a line and spaced closer than 1 1/2 dent diameter do not exceed 3.0 inches in length.

b. Voids and separations in the adhesive along the length of the bend radius of structural part and of edge member to core to which the core is bonded.

(1) The width is not wider than the bend radius.

(2) Voids and separations do not exceed two square inches in any 10 square inches.

(3) Voids and separations do not exceed more than five percent of the total bonded area.

4. **Repairable Damage.** See figure 4. Repairable damage is damage that can be permanently repaired with no adverse affect on structural integrity, flight characteristics, or safety of aircraft. All damaged areas must be NDI inspected to determine the extent of damage. Damage that exceeds these limits and NDI not listed require and engineering disposition.

5. **Voids or Unbonds Between Skin or Core, Class I Damage.** See figure 4, section A. Class I

damage is damage which does not exceed the limits listed below:

a. Diameter is 4.0 inches or less.

b. Area of damage does not exceed four percent of bonded area.

6. **Dents Without Honeycomb Core Damage, Class II Damage.** See figure 4, section B. Class II damage is damage which does not exceed the limits listed below:

a. Diameter is 0.50 to 1.5 inches.

b. Depth is 0.015 to 0.050 inch.

c. No crushed core or unbond.

7. **Dents With Honeycomb Core Damage, Class III Damage.** See figure 4, section C. Class III damage is damage which does not exceed the limits listed below:

a. Diameter is 0.50 to 1.5 inches.

b. Depth is 0.015 to 0.050 inch.

c. May have crushed core or unbonds.

8. **Damage Less Than 1.5 Inches Length or Diameter to One Skin, Class IV Damage.** See figure 4, Section D. Class IV damage is damage which does not exceed the limits listed below:

a. Damage to one skin only.

b. Length or diameter does not exceed 1.5 inches.

c. Core may or may not be damaged.

9. **Damage More Than 1.5 Inches Length or Diameter, Up to 4.0 Inches Maximum to One Skin, Class V Damage.** See figure 4, section E. Class V damage is damage which does not exceed the limits listed below:

a. Damage to one skin only.

b. Length or diameter is 1.5 to 4.0 inches.

c. Core damage of any level.

10. **Damage Less Than 1.5 Inches Length or Diameter to Both Skins, Class VI Damage.** See figure 4, section F. Class VI damage is damage which does not exceed the limits listed below:

a. Damage may be to both skins.

b. Length or diameter does not exceed 1.5 inches.

c. Core damage of any level.

11. **Damage More Than 1.5 Inches Length or Diameter, Up to 4.0 Inches Maximum, to Both Skins, Class VII Damage.** Class VII damage includes cracks, bulges, punctures, and sharp dents. See figure 4, section G. Class VII damage is damage which does not exceed the limits listed below:

a. Damage is to both skins.

b. Crack is 1.5 to 4.0 inches in length.

c. Bulges, punctures, and dents cannot be enclosed in a 1.5 inch circle, but fall within a 4.0 inch diameter circle.

d. Core damage of any kind exists.

12. **Structure to Skin or Honeycomb Core, Void or Unbond, Class VIII Damage.** See figure 4, section H. Class VIII damage is damage which does not exceed the limits listed below:

a. Between skin and edge member, not extending into core.

b. Damage may or may not be open to the edge.

c. Voids between edge member and core.

13. **Honeycomb Core Splice, Void or Unbond, Class IX Damage.** See figure 4, section J. Class IX damage is damage that occurs at the honeycomb core splice line.

14. **Water in Honeycomb Core, Class X Damage.** Class X damage is water trapped in honeycomb core. Inspect for water in honeycomb core (A1-F18AC-SRM-300, WP015 00).

15. **REPAIRS.** Blend scratches, nicks, gouges, or corrosion (A1-F18AC-SRM-250, WP038 00). If, after blending, the damage limits of table 2 are exceeded, repair damage per class IV or class V damage. Classes I, II, III, IV, VI, VIII, IX, X are organizational main-

tenance. Classes V and VII are intermediate maintenance. Repair damages by the procedures referenced below:

- a. Repair class I damage and install patch (A1-F18AC-SRM-250, WP022 00).
- b. Repair class II damage (A1-F18AC-SRM-250, WP023 00).
- c. Repair class III damage and install patch (A1-F18AC-SRM-250, WP024 00).
- d. Repair class IV damage and install patch (A1-F18AC-SRM-250, WP025 00).
- e. Repair class V damage and install patch (A1-F18AC-SRM-250, WP026 00).
- f. Repair class VI damage and install patch (A1-F18AC-SRM-250, WP027 00).
- g. Repair class VII damage and install patch (A1-F18AC-SRM-250, WP028 00).
- h. Repair class VIII damage (A1-F18AC-SRM-250, WP029 00).
- i. Repair class IX damage and install patch (A1-F18AC-SRM-250, WP030 00).
- j. Repair class X damage (A1-F18AC-SRM-250, WP005 00).

16. METAL SKINS AND STRUCTURE.

Support Equipment Required

None

Materials Required

None

17. **DAMAGE EVALUATION.** See figures 1 and 2. Damage is classified as negligible and repairable. The types of materials used are shown on figure 1. Repair zones are shown on figure 2. Allowable damage limits within repair zones are listed in tables 1 and 2. Locating and determining size of damage by visual method is organizational maintenance. Damage not listed or exceeding the limits listed below requires a depot engineering disposition.

18. **Negligible Damage.** Negligible damage is damage that may be allowed to exist as is. However, preventive maintenance, for temporary corrosion arrestment, should be done to scratches (NAVAIR 01-1A-509). The types and limits of damage are listed below and in table 1. The figure and index numbers in table 1 coincide with the figure and index numbers in the material index.

a. Scratches are not allowed within one diameter from the edge of any hole.

b. Smooth dents only, effective diameter at least 20 times the depth.

19. **Repairable Damage.** The types and limits of damage are listed below and in table 2. The figure and index numbers in table 2 coincide with figure and index numbers in the material index, figure 1.

NOTE

The limits in table 2 apply after blending the damage.

a. Scratches.

(1) Any scratches within one diameter of any hole must be blended out. Minimum blend out is one diameter from edge of any hole.

(2) Scratches to be blended out with diameter, or width, at surface at least 20 times the depth.

b. Nicks, gouges, and corrosion to be blended out with diameter, or width, at surface at least 20 times the depth.

c. Cracks. All cracks must be repaired.

d. Holes.

(1) Damage in areas free of structure and lands must have edge cleanup hole at least eight repair fastener diameters from any land, internal structure, or existing row of fasteners.

(2) Damage to lands, over structure, only one repair per land.

e. Dents exceeding the limits in table 1 must be repaired.

20. **REPAIRS.** Type of repairs are temporary, one-time flight, permanent, critical area, alternate, and typi-

cal. Repair type definition are in structure repair terms (A1-F18AC-SRM-200, WP002 00).

21. Permanent Repairs.

22. Scratches, Nicks, Gouges, or Corrosion.

Blend scratches, nicks, gouges, or corrosion (A1-F18AC-SRM-250, WP038 00). If, after blending, the damage limits of table 2 are exceeded, repair aluminum sheet as below. Refinish blended areas (A1-F18AC-SRM-500, WP027 00).

a. Scratches - make crack or edge repairs.

b. Nicks, gouges, or corrosion - make hole or edge repair.

23. Cracks.

a. In repair zone A4, repair cracks free of structure or land areas in aluminum sheet (A1-F18AC-SRM-250, WP031 00).

(1) Cut out damage in smallest diameter circle.

(2) Install a type two flush or lap patch.

(3) Refinish repaired area (A1-F18AC-SRM-500, WP027 00).

b. In repair zone B4, repair cracks free of structure or land areas in aluminum sheet 0.050 inch thick or less.

(1) Cut out damage in the smallest diameter circle.

(2) Fabricate patch (A1-F18AC-SRM-250, WP006 01).

(3) Install patch using FM300 adhesive (A1-F18AC-SRM-250, WP007 00).

(4) Refinish repaired area (A1-F18AC-SRM-500, WP027 00).

c. In repair zone A4, repair cracks across structure or land areas in aluminum sheet (A1-F18AC-SRM-250, WP036 00).

(1) Cut out damage.

(2) In repair zone A4 make repairs.

(a) Damage to Bay Requiring Repair Across Land; install flush or lap patch.

(b) Damage to Bay Requiring Repair Across Land and Edge of Part; install flush or lap patch.

(c) Damage to Land or Land and Bay; install flush or lap patch.

(3) Refinish repaired area (A1-F18AC-SRM-500, WP027 00).

d. In repair zone A4, repair cracks to aluminum formed structure (A1-F18AC-SRM-250, WP033 00).

(1) Cut out damage.

(2) In repair zone A4 install repair one through six. Select repair that can be adapted to damaged part.

(3) Refinish repaired area (A1-F18AC-SRM-500, WP027 00).

24. Holes.

a. In repair zone A4, repair holes free of structure or land areas in aluminum sheet (A1-F18AC-SRM-250, WP031 00).

(1) Cut out damage.

(2) Install a type two flush or lap patch.

(3) Refinish repaired area (A1-F18AC-SRM-500, WP027 00).

b. In repair zone B4, repair holes free of structure or land areas in aluminum sheet 0.050 inch thick or less.

(1) Cut out damage in the smallest diameter circle.

(2) Fabricate patch (A1-F18AC-SRM-250, WP006 01).

(3) Install patch using FM300 adhesive (A1-F18AC-SRM-250, WP007 00).

(4) Refinish repaired area (A1-F18AC-SRM-500, WP027 00).

c. In repair zone A4, repair holes across structure or land areas in aluminum sheet (A1-F18AC-SRM-250, WP036 00).

(1) Cut out damage.

(2) In repair zone A4 make repairs.

(a) Damage to Bay Requiring Repair Across Land; install flush or lap patch.

(b) Damage to Bay Requiring Repair Across Land and Edge of Part; install flush or lap patch.

(c) Damage to Land or Land and Bay; install flush or lap patch.

(3) Refinish repaired area (A1-F18AC-SRM-500, WP027 00).

d. In repair zone A4, repair holes to aluminum formed structure (A1-F18AC-SRM-250, WP033 00).

(1) Cut out damage.

(2) In repair zone A4 install repair one through six. Select repair that can be adapted to damaged part.

(3) Refinish repaired area (NAVAIR 01-1A-509).

25. **Edge.** In repair zone A4, repair edge damage in aluminum sheet (A1-F18AC-SRM-250, WP034 00).

a. Cut out damage.

b. Select repair patch (A1-F18AC-SRM-250, WP034 00).

(1) Corner Damage to Lands.

(2) Corner Damage to Lands and Bays.

(3) Edge Damage to Lands.

(4) Edge Damage to Lands and Bays.

(5) Full Width Damage to End.

c. Refinish repaired area (A1-F18AC-SRM-500, WP027 00).

26. **Dents.**

a. In repair zone A4, repair dents free of structure or land areas in aluminum sheet (A1-F18AC-SRM-250, WP031 00).

(1) Cut out damage.

(2) Install a type two flush or lap patch.

(3) Refinish repaired area (A1-F18AC-SRM-500, WP027 00).

b. In repair zone B4, repair dents free of structure or land areas in aluminum sheet 0.050 inch thick or less.

(1) Cut out damage in the smallest diameter circle.

(2) Fabricate patch (A1-F18AC-SRM-250, WP006 01).

(3) Install patch using FM300 adhesive (A1-F18AC-SRM-250, WP007 00).

(4) Refinish repaired area (A1-F18AC-SRM-500, WP027 00).

c. In repair zone A4, repair dents across structure or land areas in aluminum sheet (A1-F18AC-SRM-250, WP036 00).

(1) Cut out damage.

(2) In repair zone A4 make repairs.

(a) Damage to Bay Requiring Repair Across Land; install flush lap patch.

(b) Damage to Bay Requiring Repair Across Land and Edge of Part; install flush or lap patch.

(c) Damage to Land or Land and Bay; install flush or lap patch.

(3) Refinish repaired area (A1-F18AC-SRM-500, WP027 00).

d. In repair zone A4, repair dents to aluminum formed structure (A1-F18AC-SRM-250, WP033 00).

(1) Cut out damage.

(2) In repair zone A4 install repair one through six. Select repair that can be adapted to damaged part.

(3) Refinish repaired area (A1-F18AC-SRM-500, WP027 00).

27. **Trimming of, 74A180702, 74A180717, Seals.** See figure 5. Procedures below are for trimming seals to allow easier installation and removal of hinge pins in trailing edge flap shroud.

a. Trim seals per dimensions views A and B.

c. Do chemical treatment (A1-F18AC-SRM-500, WP008 00).

b. Clean trimmed area.

d. Refinish repaired area (A1-F18AC-SRM-500, WP027 00).

Table 1. Negligible Damage Limits




















Fig No Idx No	Nomen/ Repair Zone	Thickness	Scratch Depth	Nicks Gouges		Dents Depth	Rivet Tilt
				Depth	Area		
Fig 1 (1)	Skin Zone A5	0.015	0.002	0.002	100%	0.007	
		0.028	0.002	0.002	100%	0.014	
	Zone B4	0.015	0.0006	0.0006	100%	0.007	
		0.028	0.0006	0.0006	100%	0.014	
	Zone C4	0.028	0.0006	0.0006	100%	0.014	
Fig 1 (2)	Seal Zone A4	0.032	0.0006	0.0006	100%	0.016	10%
Fig 1 (3)	Seal Zone A4	0.032	0.0006	0.0006	100%	0.016	10%
Fig 1 (4)	Skin Zone B4	0.043	0.0006	0.0006	100%	0.015	
Fig 1 (5)	Seal Zone A4	0.032	0.0006	0.0006	100%	0.016	10%
Fig 1 (6)	Seal Zone A4	0.032	0.0006	0.0006	100%	0.016	10%
Fig 1 (7)	Skin Zone C4	0.063	0.0006	0.0006	100%	0.015	
		0.028	0.0006	0.0006	100%	0.014	
Fig 1 (8)	Seal Zone A4		0.0006	0.0006	100%	0.016	10%
Fig 1 (9)	Rib Zone A4	0.040	0.0006	0.0006	100%	0.020	
		0.050	0.0006	0.0006	100%	0.025	
Fig 1 (21)	Rib Zone B4		0.0006	0.0006	100%	0.010	
Fig 1 (22)	Rib Zone A4		0.0006	0.0006	100%	0.010	
Fig 1 (23)	Spar Zone A4 Zone B4		0.0006	0.0006	100%	0.020	
			0.0006	0.0006	100%	0.020	

Table 1. Negligible Damage Limits (Continued)




















Fig No Idx No	Nomen/ Repair Zone	Thickness	Scratch Depth	Nicks Gouges		Dents Depth	Rivet Tilt
				Depth	Area		
Fig 1 (24)	Rib Zone A4		0.0006	0.0006	100%	0.025	
Fig 1 (25)	Rib Zone B4		0.0006	0.0006	100%	0.020	
Fig 1 (26)	Skin Zone A4	0.020	0.0006	0.0006	100%	0.010	
	Zone B4	0.020	0.0006	0.0006	100%	0.010	
	Zone C4	0.020	0.0006	0.0006	100%	0.010	
Fig 1 (27)	Arm Zone B4		0.0006	0.0006	100%	0.020	
Fig 1 (29)	Arm Zone B4		0.0006	0.0006	100%	0.020	
NOTES  Various thickness.  None allowed.							

Table 2. Repairable Damage Limits After Blending

Fig No Idx No	Nomen/ Repair Zone	Thickness	Edge Nicks Depth	Scratch Depth	Nicks Gouges		Corrosion	
					Depth	Area	Depth	Area
Fig 1 (1)	Skin Zone A4	0.015	0.060	0.003	0.003		0.003	
		0.028	0.060	0.005	0.005		0.005	
		0.015	0.060	0.003	0.003		0.003	
	Zone B4 Zone C4	0.028	0.060	0.0006	0.0006	100%	0.0006	100%
		0.028	0.060	0.0006	0.0006	100%	0.0006	100%
		0.028	0.060	0.0006	0.0006	100%	0.0006	100%
Fig 1 (2)	Seal Zone A4	0.032	0.040	0.006	0.006	10%	0.006	10%
Fig 1 (3)	Seal Zone A4	0.032	0.040	0.006	0.006	10%	0.006	10%
Fig 1 (4)	Skin Zone B4	0.043	0.060	0.0006	0.0006	100%	0.0006	100%
Fig 1 (5)	Seal Zone A4	0.032	0.040	0.006	0.006	10%	0.006	10%

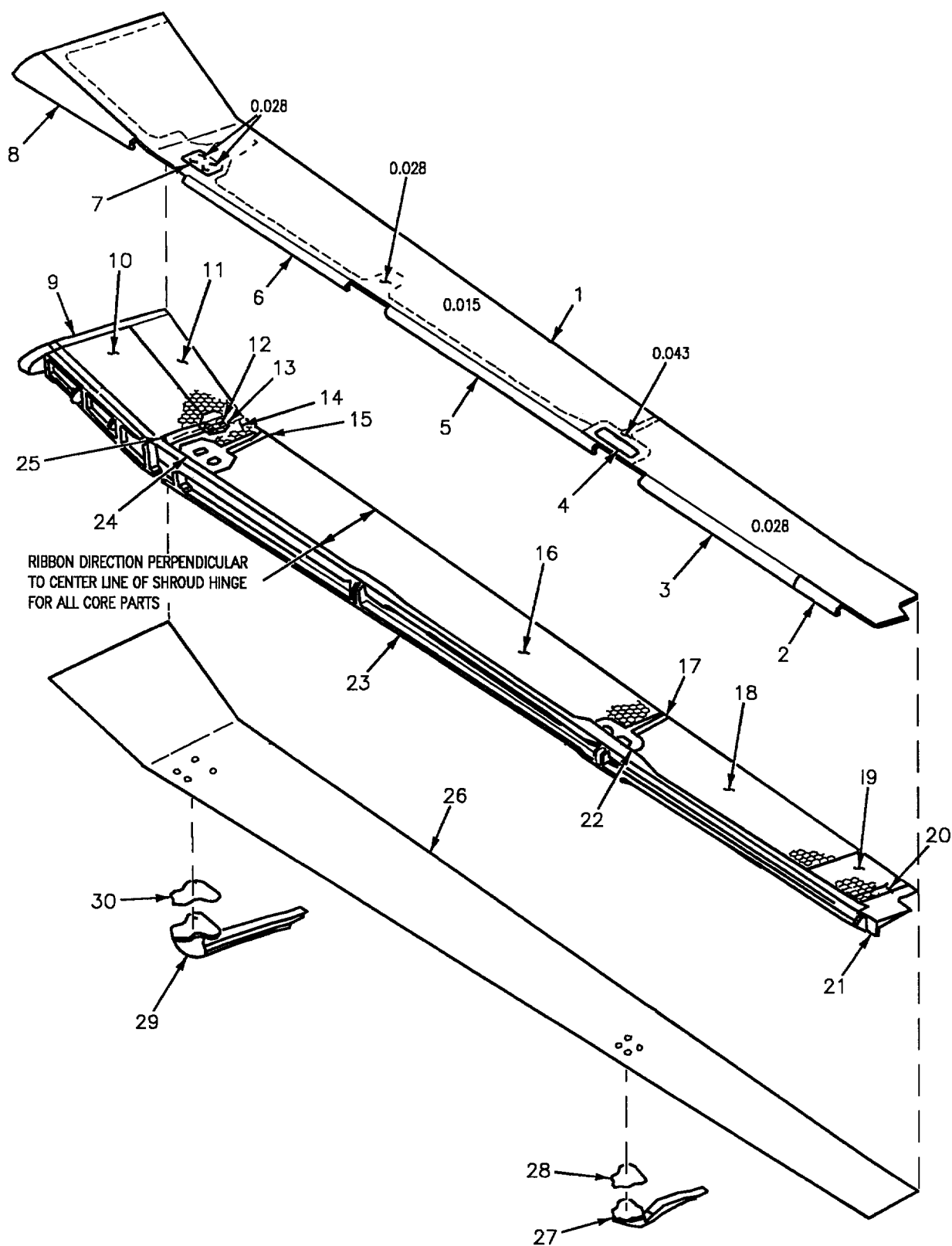


Figure 1. Material Index (Sheet 1)













IDX NO.	EFT	Nomenclature and Part No.	Description	Material
1		Skin 74A180712-2007, -2008 74A180712-2009, -2010	0.050 Sheet	7075-T6 Alclad
2		Seal 74A180751-2003, -2004	0.032 Sheet	7075-T6 Al Aly
3		Seal 74A180702-2017, -2018	0.032 Sheet	7075-T6 Al Aly
4		Skin 74A180725-2005	0.050 Sheet	7075-T6 Alclad
5		Seal 74A180702-2015, -2016	0.032 Sheet	7075-T6 Al Aly
6		Seal 74A180702-2013, -2014	0.032 Sheet	7075-T6 Al Aly
7		Skin 74A180725-2001	0.063 Sheet	7075-T6 Alclad
8		Seal 74A180717-2023, -2024 74A180717-2037, -2038	0.032 Sheet	7075-T6 Al Aly
9		Rib 74A180710-2001, -2002 74A180759-2001, -2002	0.75 Sheet 1.75 Plate	7075-T7351 Al Aly 7075-T7351 Al Aly
10		Core 74A180709-2001, -2002 74A180709-2037, -2038		5056-H39 Al Aly
11		Core 74A180709-2019, -2020 74A180709-2039, -2040		5056-H39 Al Aly
12		Core 74A180709-2003, -2004		5056-H39 Al Aly
13		Core 74A180709-2005, -2006		5056-H39 Al Aly
14		Core 74A180709-2031, -2032		5056-H39 Al Aly
15		Core 74A180709-2023, -2024		5056-H39 Al Aly
16		Core 74A180709-2025, -2026		5056-H39 Al Aly

Figure 1. Material Index (Sheet 2)




















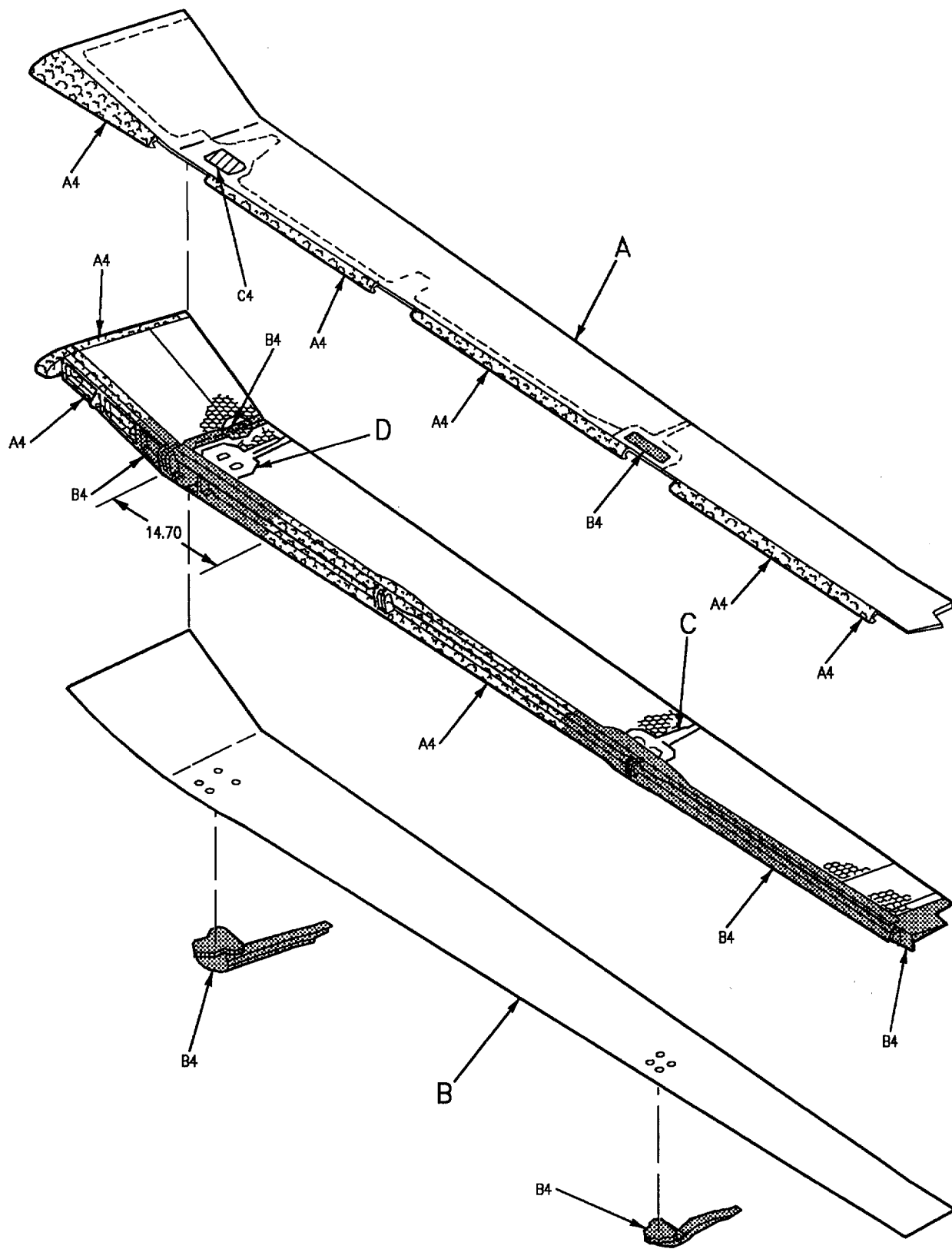
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18		Core 74A18079-2029, -2030		5056-H39 Al Aly
19		Core 74A18079-2033, -2034		5056-H39 Al Aly
20		Core 74A18079-2035, -2036		5056-H39 Al Aly
21		Rib 74A180754-2001, -2002	1.50 Plate	7075-T7351 Al Aly
22		Rib 74A180715-2005, -2006	1.75 Plate	7075-T7351 Al Aly
23	 	Spar 74A180698-2005, -2006 74A180698-2009, -2010	Machining	7075-T7351 Al Aly
24		Rib 74A180714-2003, -2004	2.50 Plate	7075-T7351 Al Aly
25		Rib 74A80723-2001, -2002	2.25 Plate	7075-T7351 Al Aly
26	 	Skin 74A180713-2009, -2010 74A180713-2011, -2012	0.020 Sheet	7075-T6 Alclad
27	    	Arm 74A180740-2001, -2002 74A180740-2003 74A180740-2004 74A180740-2005 74A180740-2006	Forging	6Al-4V Ti Anl
28		Shim 74A180716-2003	0.032 Laminate	5052-H39 Al Aly
29	     	Arm 74A180728-2001, -2002 74A180728-2003, -2004 74A180728-2005 74A180728-2006 74A180728-2007 74A180728-2008	Forging	6Al-4V Ti Anl
30		Shim 74A180716-2001	0.032 Laminate	5052-H39 Al Aly

Figure 1. Material Index (Sheet 3)

IDX NO.	EFT	Nomenclature and Part No.	Description	Material
LEGEND				
1		3/16 hexcell x 0.001 honeycomb.		
2		1/8 hexcell x 0.001 honeycomb.		
3		1/8 hexcell x 0.0015 honeycomb.		
4		161353 thru 161364.		
5		161365 thru 161733.		
6		161353 thru 161519.		
7		161520 and Up.		
8		161365 thru 162454, 162474, 162476, 162477, 162862, 162868, 162875 thru 162877, 162884, 162890, 162893, 162906 thru 162908, 163904, 163097, 163103, 163108, 163111 thru 163113, 163116, 163117, 163119, 163124.		
9		161365 thru 162446, 162474, 162476, 162477, 162862, 162868, 162875 thru 162877, 162884, 162890, 162893, 162906 thru 162908, 163904, 163097, 163103, 163108, 163111 thru 163113, 163116, 163117, 163119, 163124. thru 163126.		
10		161734 thru 162440, 162474, 162476, 162477, 162862, 162868, 162875 thru 162877, 162884, 162890, 162893, 162906 thru 162908, 163904, 163097, 163103, 163108, 163111 thru 163113, 163116, 163117, 163119.		
11		161734 thru 162432, 162474, 162476, 162477, 162862, 162868, 162875 thru 162877, 162884, 162890, 162893, 162906 thru 162908, 163904, 163097, 163103, 163108, 163111 thru 163113, 163116, 163117, 163119.		
12		162455 thru 162473, 162475, 162826 thru 162861, 162863 thru 162867, 162869 thru 162874, 162878 thru 162883, 162886 thru 162889, 162891, 162892, 162894 thru 162905, 162909 thru 163093, 163095, 163096, 163098 thru 163102, 163105 thru 163107, 163109, 163114, 163118, 163120 thru 163122, 163127 and Up.		
13		162447 thru 162473, 162475, 162826 thru 162861, 162863 thru 162867, 162869 thru 162874, 162878 thru 162883, 162886 thru 162889, 162891, 162892, 162894 thru 162905, 162909 thru 163093, 163095, 163096, 163098 thru 163102, 163105 thru 163107, 163109, 163114, 163118, 163120 thru 163122, 163127 and Up.		
14		162441 thru 162473, 162475, 162826 thru 162861, 162863 thru 162867, 162869 thru 162874, 162878 thru 162883, 162886 thru 162889, 162891 thru 162892, 162894 thru 162905, 162909 thru 163093, 163095 thru 163096, 163098 thru 163102, 163105 thru 163107, 163109, 163114, 163118, 163120 and Up.		
15		162443 thru 162473, 162475, 162826 thru 162861, 162863 thru 162867, 162869 thru 162874, 162878 thru 162883, 162886 thru 162889, 162891 thru 162892, 162894 thru 162905, 162909 thru 163093, 163095 thru 163096, 163098 thru 163102, 163105 thru 163107, 163109, 163114, 163118, 163120 and Up.		

Figure 1. Material Index (Sheet 4)



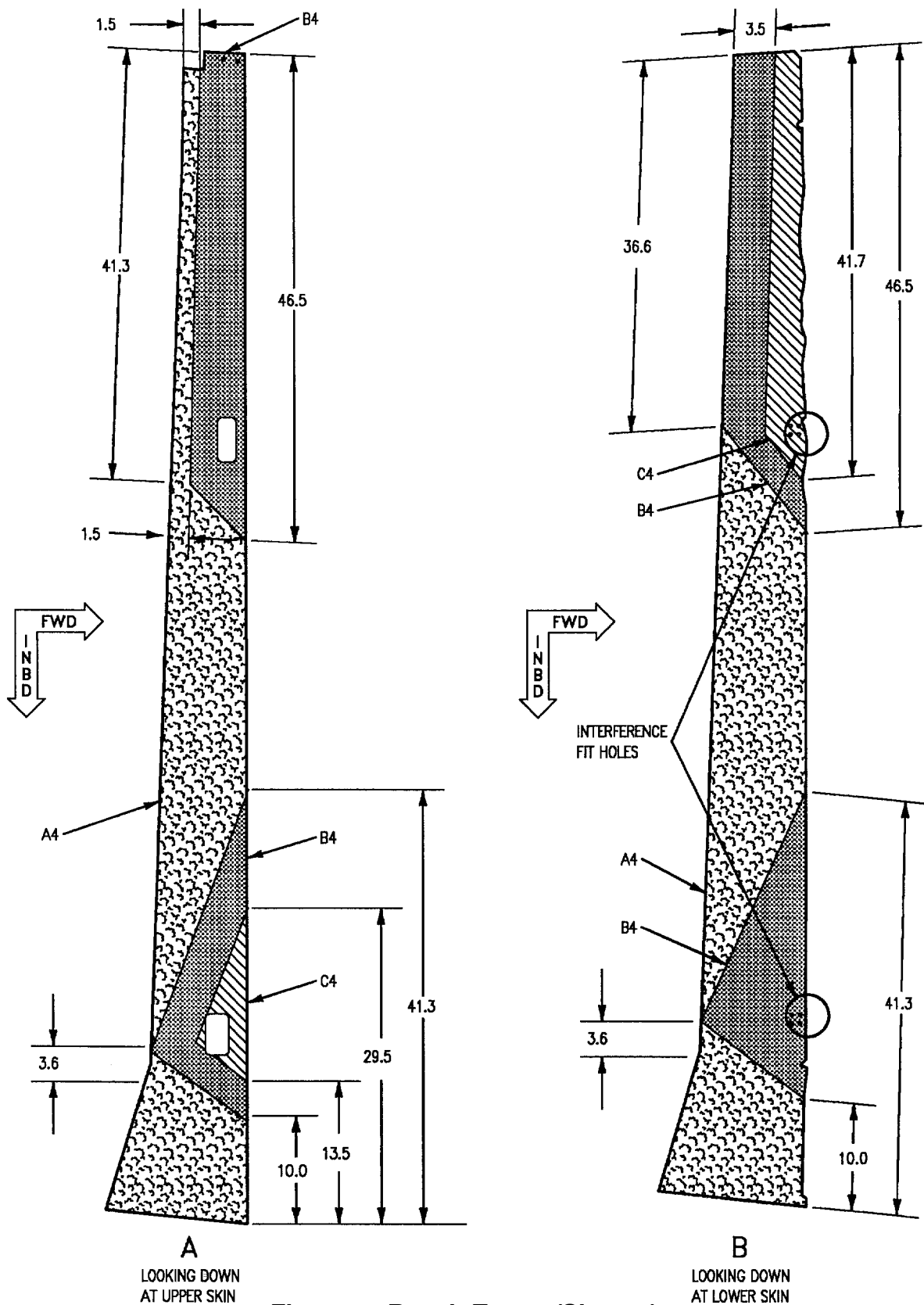


Figure 2. Repair Zones (Sheet 2)

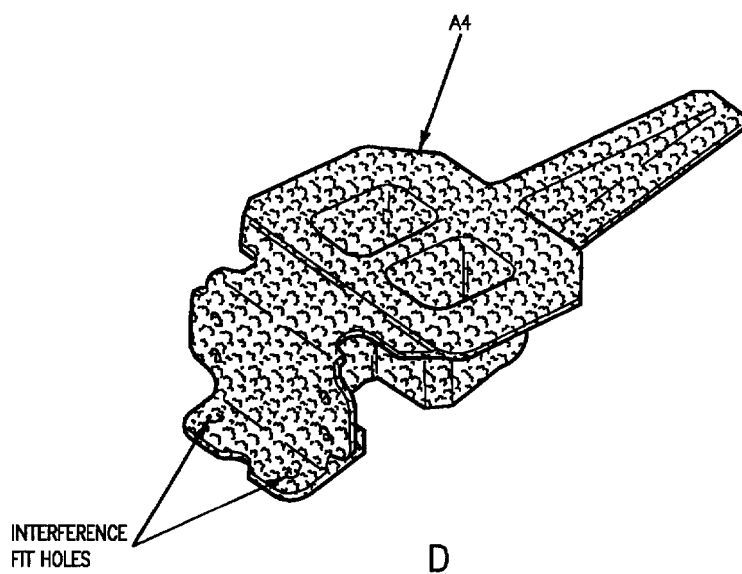
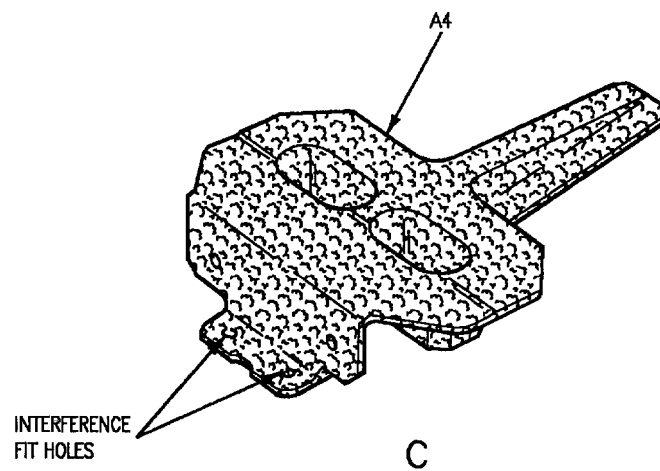


Figure 2. Repair Zones (Sheet 3)

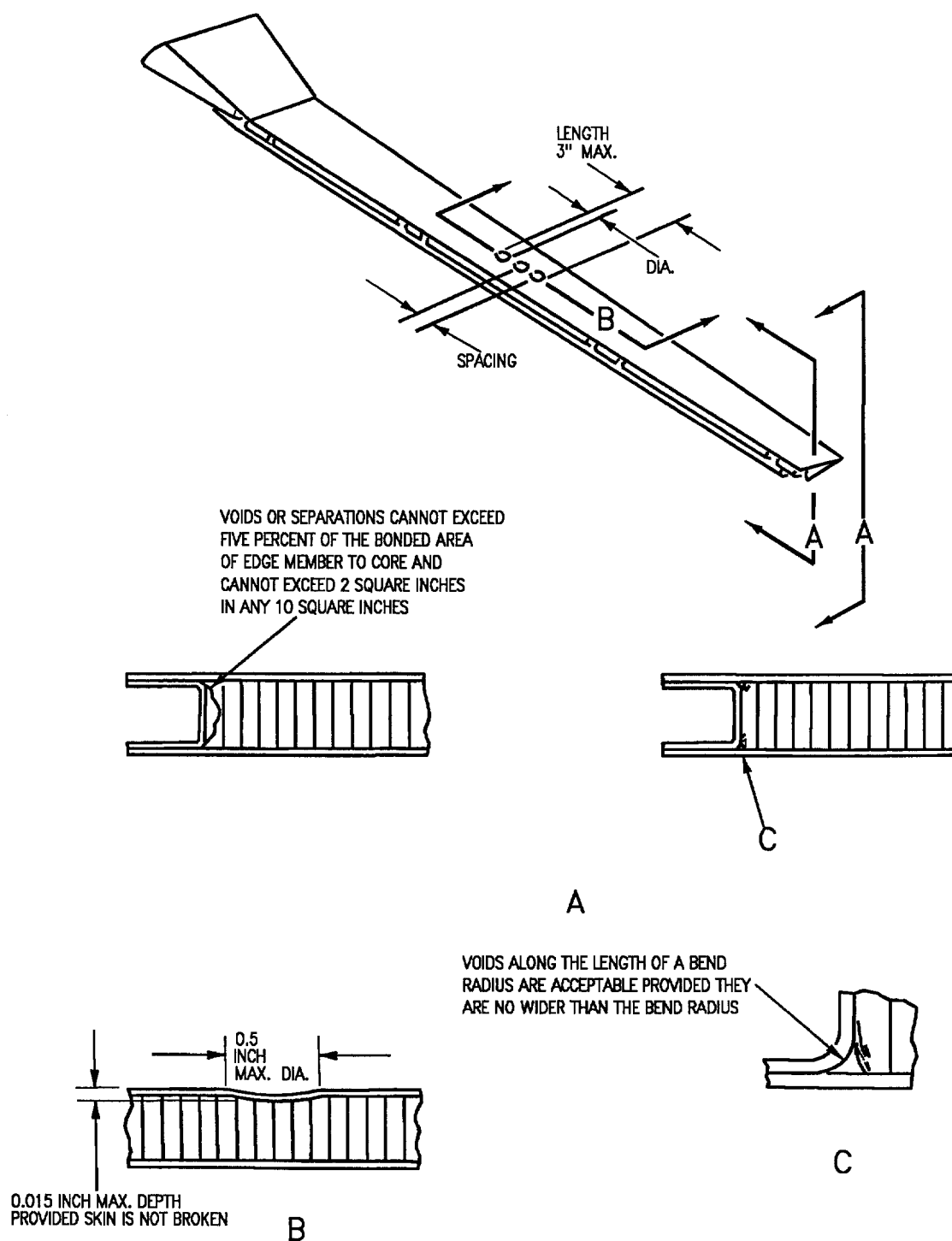
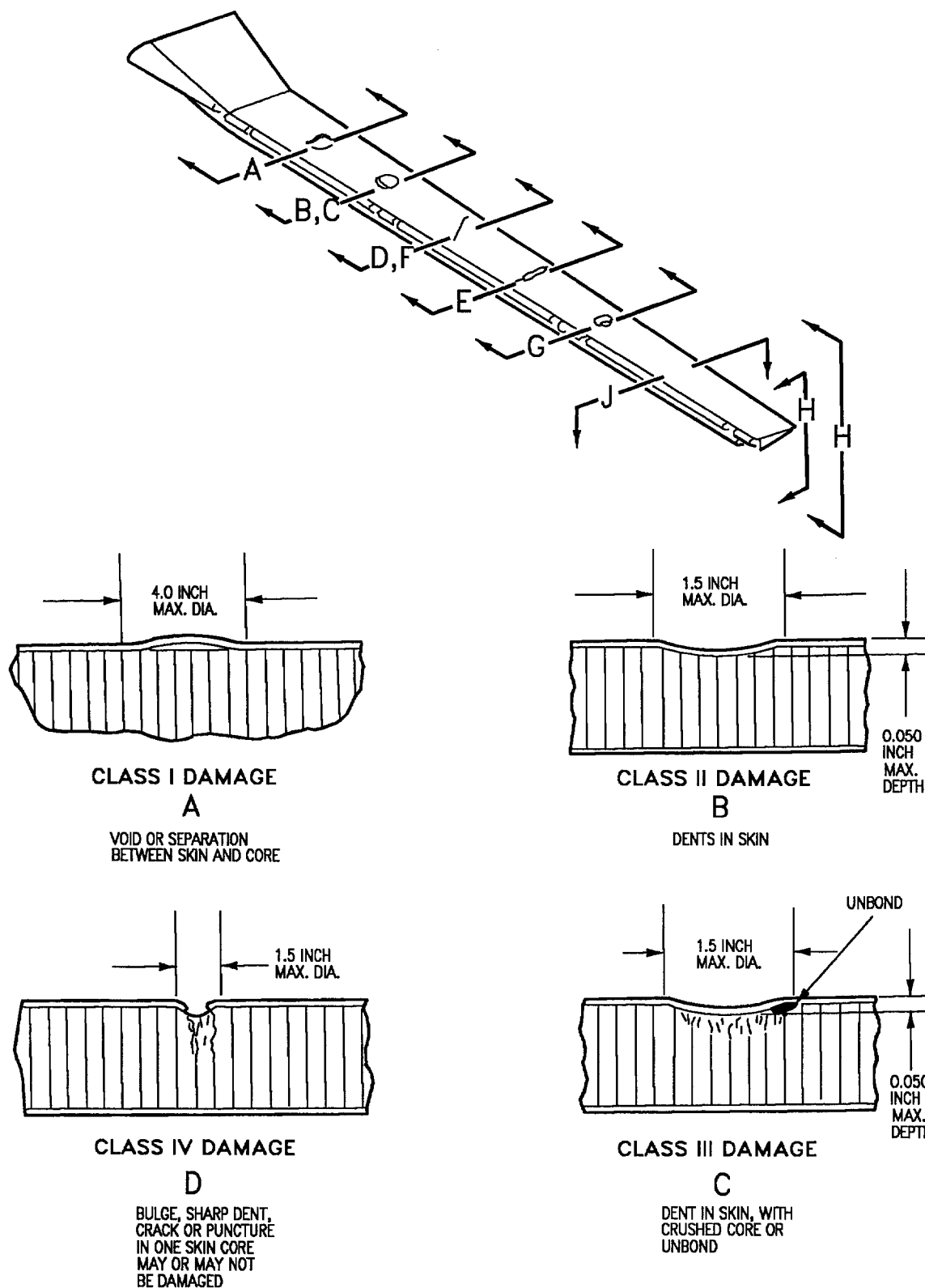
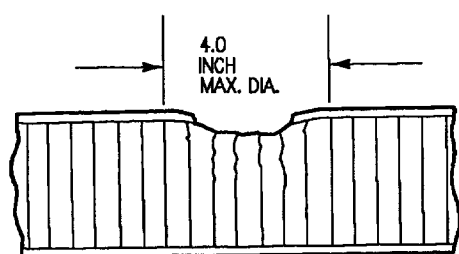


Figure 3. Negligible Damage, Aluminum Skin and Aluminum Honeycomb Core



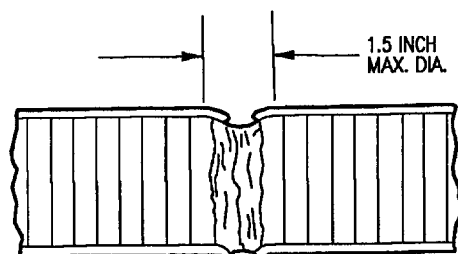
00700401

Figure 4. Repairable Damage, Aluminum Skin and Aluminum Honeycomb Core
(Sheet 1)



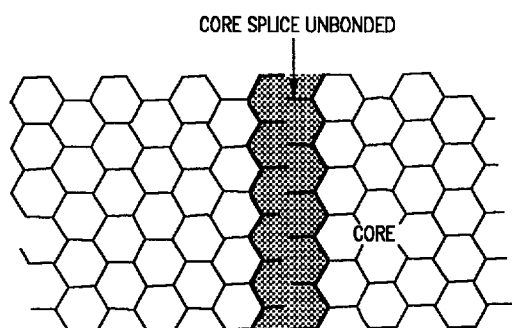
BULGE, DENT, CRACK
OR PUNCTURE IN ONE
SKIN ONLY, ANY CLASS
CORE DAMAGE

E
CLASS V DAMAGE



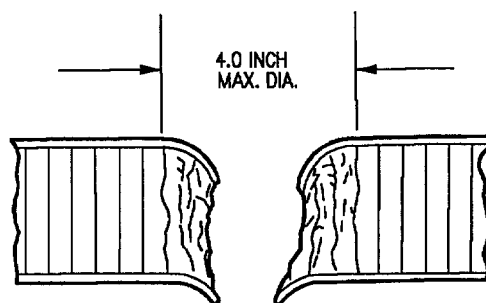
BOTH SKINS CRACKED
OR PUNCTURED, BULGED,
SHARPLY DENTED, ANY
CLASS CORE DAMAGE

F
CLASS VI DAMAGE



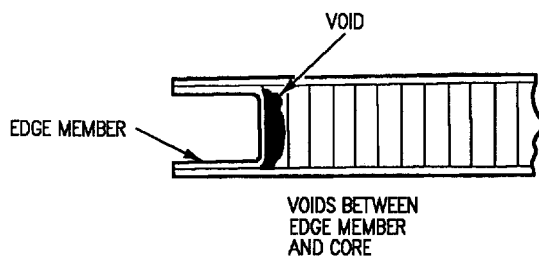
VOIDS OR SEPARATIONS
IN CORE SPlice

J
CLASS IX DAMAGE

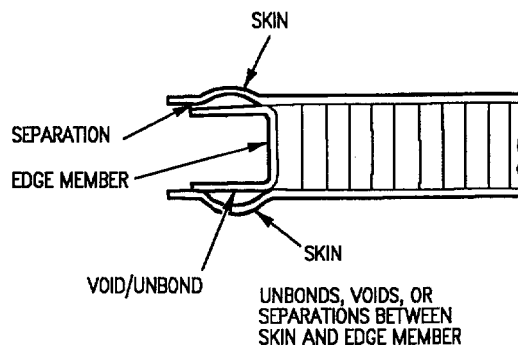


BOTH SKINS CRACKED,
PUNCTURED, BULGED,
OR DENTED LEVEL,
ANY CORE DAMAGE

G
CLASS VII DAMAGE



H
CLASS VIII DAMAGE



**Figure 4. Repairable Damage, Aluminum Skin and Aluminum Honeycomb Core
(Sheet 2)**

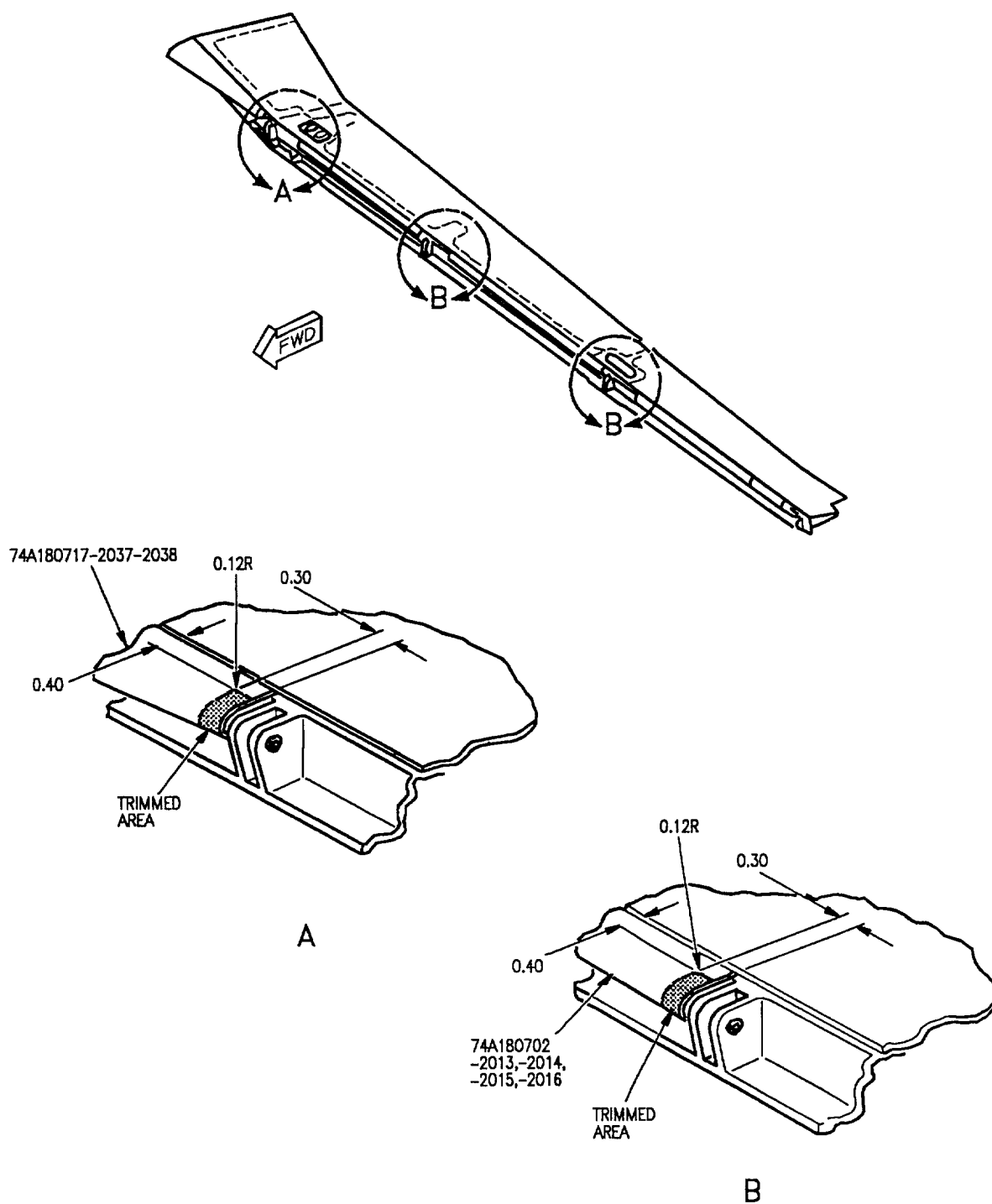


Figure 5. Trimming of 74A180702, 74A180717, Seals

28. **REPLACEMENT.**29. **74A180103 FLAP SHROUD.** See figure 6.**Support Equipment Required**

None

Materials Required**Specification****or Part Number****Nomenclature**

MIL-S-83430

Sealant

30. **Removal.**

a. If flap shroud is easily lowered manually go to step i. If flap shroud is difficult to lower manually go to step b.

b. Apply external electrical power (A1-F18AC-LMM-000).

c. Apply external hydraulic power to system 1 and 2 (A1-F18AC-LMM-000).

d. On GND PWR control panel assembly, set and hold 4 switch to B ON for three seconds, view J.

e. On FCS control panel C-10406/ASW-44, press RESET switch, view K.

f. On LH vertical console control panel, set FLAPS switch to FULL, fully extending trailing edge flaps, view H.

g. Turn off hydraulic power (A1-F18AC-LMM-000).

h. Turn off electrical power (A1-F18AC-LMM-000).

i. Remove pin retainer bracket (1) from flap shroud (2).

j. While supporting leading edge of flap shroud, remove hinge pins (3).

k. Lift forward edge of flap shroud, while supporting the flap shroud pull forward removing flap shroud drive arms (4) from trailing edge flap rollers (5).

31. **Installation.****NOTE**

When installing a new flap shroud, do not install drive arm attach rivets until rigging procedure is complete, use temporary bolts and nuts to hold drive arms and shims in place

while rigging. When installing existing flap shroud first check rigging. If flap shroud needs to be rigged, remove rivets (A1-F18AC-SRM-200, WP 004 06) on drive arms and install temporary bolts and nuts to hold drive arms and shims in place while rigging.

a. While supporting flap shroud, (2) carefully guide flap shroud drive arms (4) into trailing edge flap rollers (5).



Prior to installing flap shroud hinge pins, visually verify existence and condition of bushing sleeves in shroud hinge lugs located on both wing and flap shroud (4 places, 3 bushings per hinge attach point). See A1-F18AC-SRM-410, figures 011 00 and 013 00. Missing/Damaged bushings require replacement.

b. Align flap shroud hinge points to wing hinge points and install hinge pins (3).

32. **Rigging Procedure.**

Damage to the flap structure could occur if flap shroud is not properly rigged before applying hydraulic power to trailing edge flap actuator.

Maximum shim thickness for inboard shroud drive arm is 0.120 inch for 161353 thru 161736, and 0.064 inch for 161737 and Up. Maximum shim thickness for outboard shroud drive arm is 0.064 inch.

NOTE

Gap requirements to extend full span of shroud.

a. With trailing edge flap in neutral position and flap shroud drive arms against the upper rollers, (manually pull up trailing edge of the flap shroud to make sure drive arms are against upper rollers). Adjust inboard and outboard drive arm shims (see figure 1 for shims) to meet the following gap requirements. (QA) For example of shim taper see section D.

(1) The average gap between upper shroud seals and wing skin shall be 0.06 +0.09 -0.00 inch outboard of XW56.860. Take gap measurements at approximately XW56.860, the outboard end of the shroud and every 20 inches in between for a total of six gap measurements. The

average of these measurements shall not exceed 0.150 and the maximum at any location shall not exceed 0.2000. See figure 6, section C, dimension 8.

(2) The gap between upper shroud seals and wing skin shall taper from 0.06 +0.09 -0.00 inch at XW56.860 to 0.06 +.12 -0.00 inch at outboard end of flap shroud, section C, dimension 8.

(3) The gap between flap shroud trailing edge and trailing edge flap shall be 0.060 inch outboard of XW56.860. See section B, dimension 4, and section C, dimension 10.

(4) The gap between flap shroud trailing edge and trailing edge flap shall taper from 0.060 +0.060 -0.000 inch at XW56.860 to 0.140 +0.120 -0.030 inch at inboard end of flap shroud. See section B, dimension 4, and section C, dimension 10.

(5) When all gap dimensions above have been met, lower trailing edge flap to the full down position.

b. With trailing edge flap fully down, adjust shims on inboard and outboard flap shroud drive arms to meet the following gap requirements. (QA)

(1) The gap between flap shroud trailing edge and trailing edge flap at inboard flap shroud drive arm shall be 1.79 ±0.10 inch. See section C, dimension 11.

(2) The gap between flap shroud trailing edge and trailing edge flap at outboard flap shroud drive arm shall be 1.41 ±0.10 inch. See section B, dimension 5.

NOTE

Each laminate of the drive arm shims is 0.003 inch.

c. Examples of shim adjustments for inboard flap shroud drive arm are listed below. See section C.

(1) To adjust dimension 10 only - add 0.003 at dimension 7 and remove 0.032 at dimension 9, this will decrease dimension 10 by 0.07.

d. Examples of shim adjustments for outboard flap shroud drive arm are listed below. See section B.

(1) To adjust dimension 4 only - add 0.002 at dimension 2 and remove 0.032 at dimension 3, this will decrease dimension 4 by 0.06.

e. After flap shroud and flap shroud drive arms have been rigged to the proper dimensions, place trailing edge in the level position (0°) and then check rigging on outboard trailing edge flap roller to limits listed below. (QA) See section A.

(1) Add or remove from shim to get 0.02 inch gap at dimension 1. The 0.02 gap must exist either above or below the roller, and is acceptable at both.

(2) If shim adjustment is needed, remove rivets.

(3) Place temporary bolt and nut to hold shims in place while adjusting for proper dimension.

(4) Replace rivets after rigging is complete (A1-F18AC-SRM-200, WP004 06). For rivets, views E, F, or G.

(5) Reseal rivet holes in upper skin of flap shroud with MIL-S-83430 sealant (A1-F18AC-SRM-200, WP011 00).

f. Install drive arm, attach rivets, and fasteners wet with sealant (A1-F18AC-SRM-200, WP011 00). For rivets, views E, F, or G.

g. Fillet seal periphery of drive arm, shim, and lower skin surface with sealant (A1-F18AC-SRM-200, WP011 00). For sealant location, figure 8.

h. Install cotter pins in hinge pins, then install pin retainer brackets (QA).

i. Refinish as required (A1-F18AC-SRM-500, WP027 00).

33. **74A180725 SKIN.** See figure 7.

Support Equipment Required

Part Number or Type Designation	Nomenclature
-	Torque Wrench, 0 to 300 Inch Pounds
-	Heat Source, 250 Watt Infrared
74D110165-1001	Repair Set Temperature/ Vacuum Control, Composite Structure
MS3101R16-10P	Connector, Plug, Electric

Support Equipment Required (Continued)

Part Number or Type Designation	Nomenclature
-	Balance Scale, Trip, 0.10 Gram Graduations
MIL-V-21987	Vacuum Cleaner

Materials Required

Specification or Part Number	Nomenclature
CCC-C-440, Type 1, Class 1	Cheesecloth
TT-M-261	Methyl Ethyl Ketone
EA934	Adhesive
A-A-1047, Grit 320-9X11 400-9X11	Paper, Abrasive, Silicon Carbide
Pattern 30 5602	Cloth, Scrim, Nylon
Fabricate (Length as Required)	Steel Rod, 0.187 Inch Diameter
MIL-S-83430	Sealing Compound

34. Removal.

a. Remove NAS665V12HT bolts attaching drive arm to rib, typical two places on inboard and/or outboard drive arm, detail A.



Use care when driving off skin not to damage fastener holes and plate nuts.

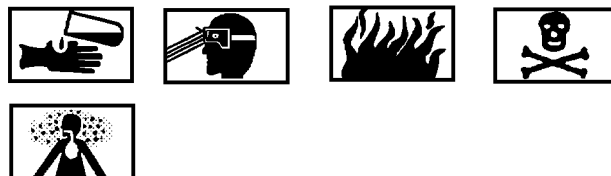
b. Insert 0.187 inch diameter steel rod into fastener holes and drive skin off rib, detail B.

NOTE

If skin shows extensive damage resulting from removal, replace skin. If skin shows minor deformation, form back into shape using plastic or rawhide mallet.

c. Remove any residual adhesive from skin and rib by sanding with 320 grit abrasive paper.

d. Vacuum clean adhesive residue from rib.



Methyl Ethyl Ketone

4

e. Clean area with clean cheesecloth moistened with methyl ethyl ketone.

f. Apply chemical treatment to any exposed metal (A1-F18AC-SRM-500, WP008 00).

g. Apply primer (A1-F18AC-SRM-500, WP011 00).



Sealing Compound

8

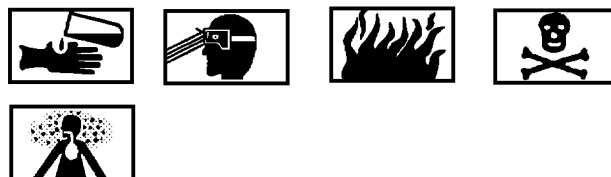
h. Install NAS665V12HT bolts wet with MIL-S-83430 sealing compound. For sealant preparation and application (A1-F18AC-SRM-200, WP011 00).

i. Torque fasteners 100 to 140 inch pounds.

j. Brush apply sealant to form a continuous film to encapsulate the anchor nut and internal surfaces of ribs 74A180714 and 74A180715 (A1-F18AC-SRM-200, WP011 00). For sealant location, figure 8.

35. Installation.

a. Lightly abrade bond areas to a satin finish using 400 grit abrasive paper.



Methyl Ethyl Ketone

4

b. Remove sanding residue using clean cheesecloth moistened with methyl ethyl ketone.

c. Wipe surface dry with clean dry cheesecloth.



Adhesive



33

d. Prepare adhesive:

NOTE

Mix only amount of material to be used in 40 minutes.

(1) Combine by weight, 100 parts A with 35 parts

B.

(2) Mix thoroughly until a uniform color appears.

(3) Allow adhesive to set 5 minutes for air bubble removal.

e. Apply thin coat of adhesive to mating surfaces of skin and rib.

f. Apply one layer of scrim cloth to bonding surface.

g. Position skin onto rib and apply sufficient pressure to get complete contact.

h. Remove squeeze out by wiping with clean cheesecloth moistened with methyl ethyl ketone.

i. Cure EA934 adhesive by one of two methods:

(1) Air cure at room temperature, 75° F, for 5 days.



If using heat cure method, do not exceed 200° F or damage to shroud assembly may occur.

NOTE

Connect infrared heat source to 74D110165-1001 repair set with MS3101R16-10P connector.

(2) Heat cure:

(a) Air cure at room temperature, 75° F, for 2 hours.

(b) Apply 250 watt infrared heat source, not exceeding 200° F, for 1 hour.

j. Apply finish system as required (A1-F18AC-SRM-500, WP027 00).

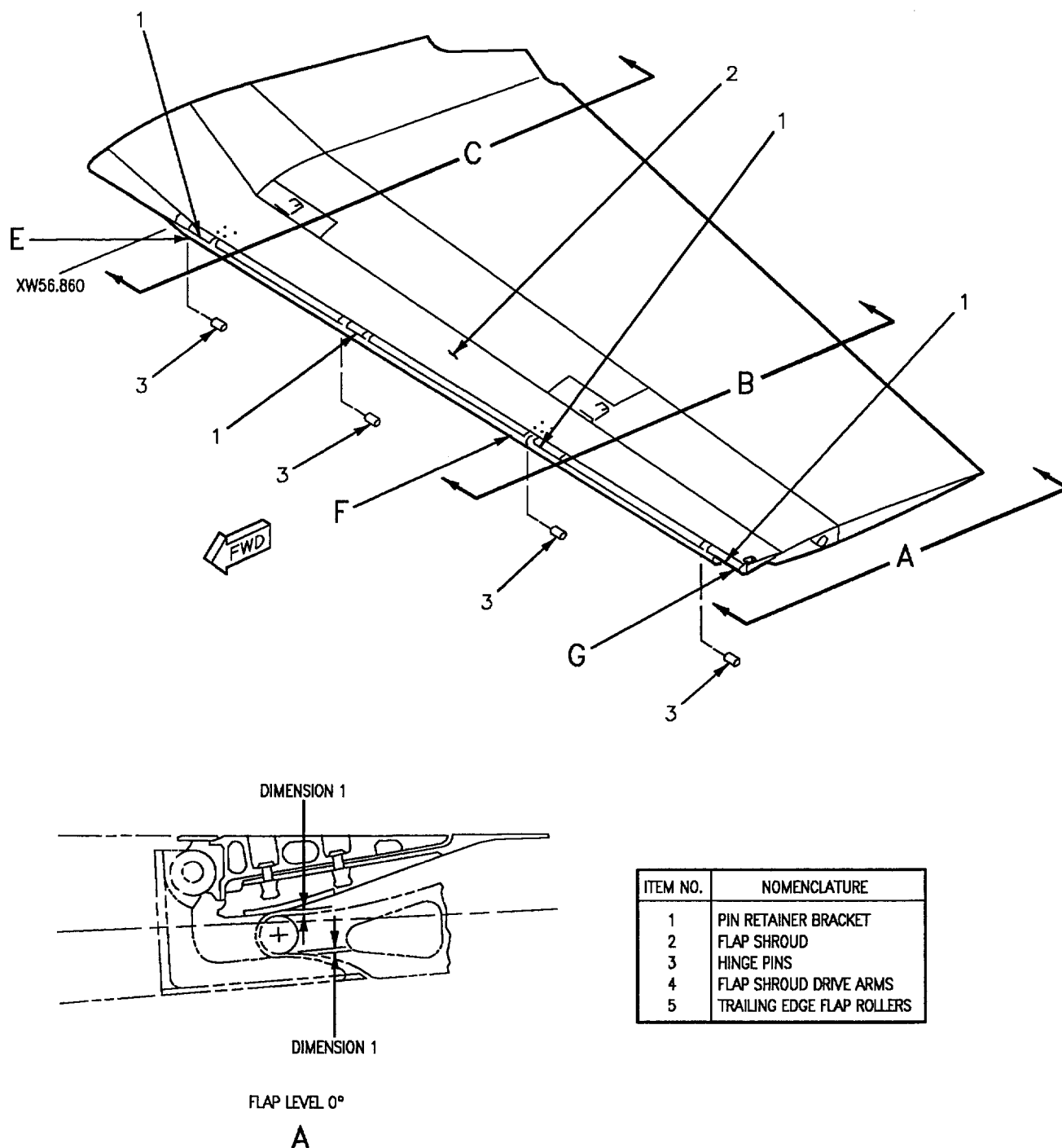


Figure 6. Flap Shroud Replacement (Sheet 1)

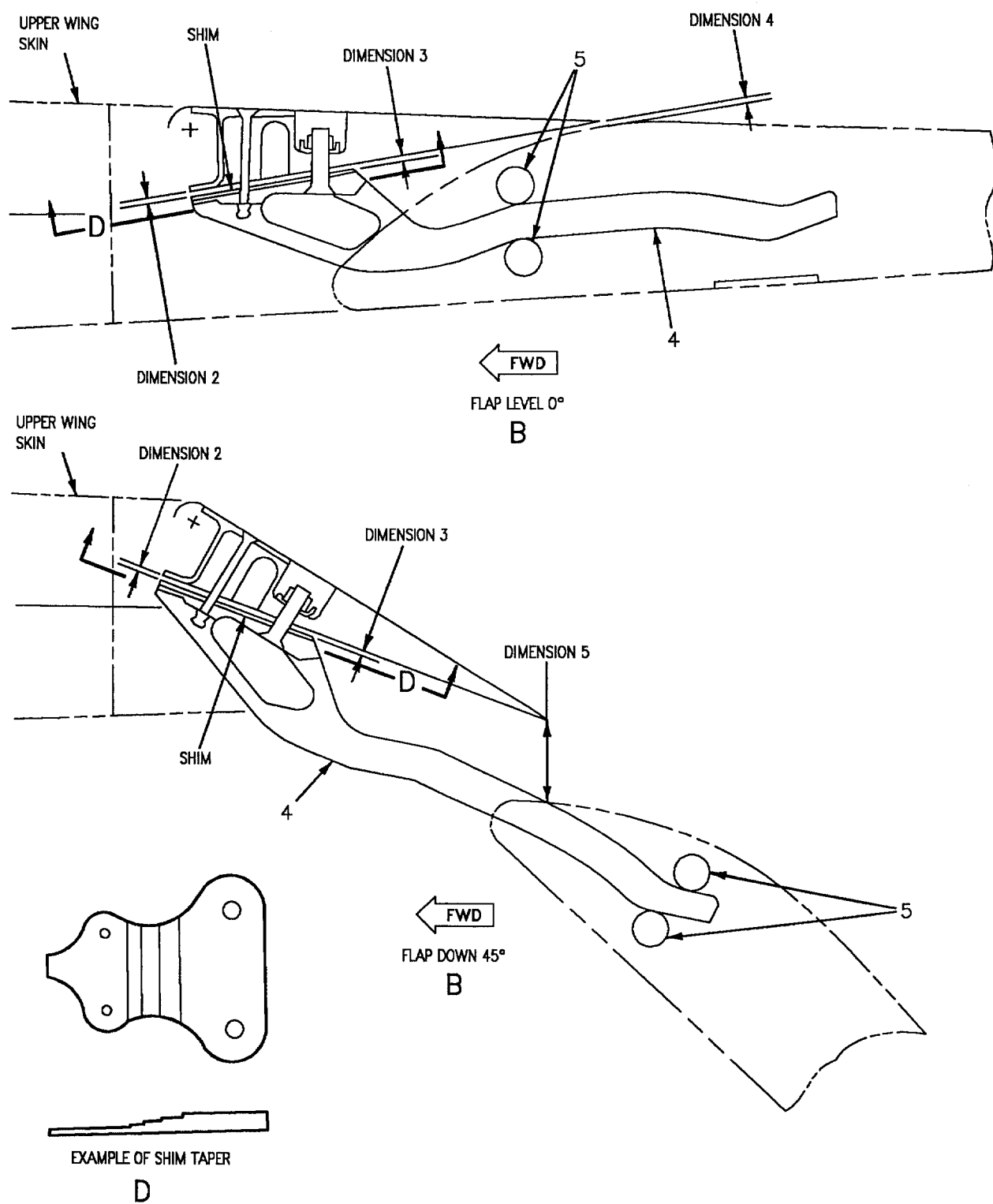


Figure 6. Flap Shroud Replacement (Sheet 2)

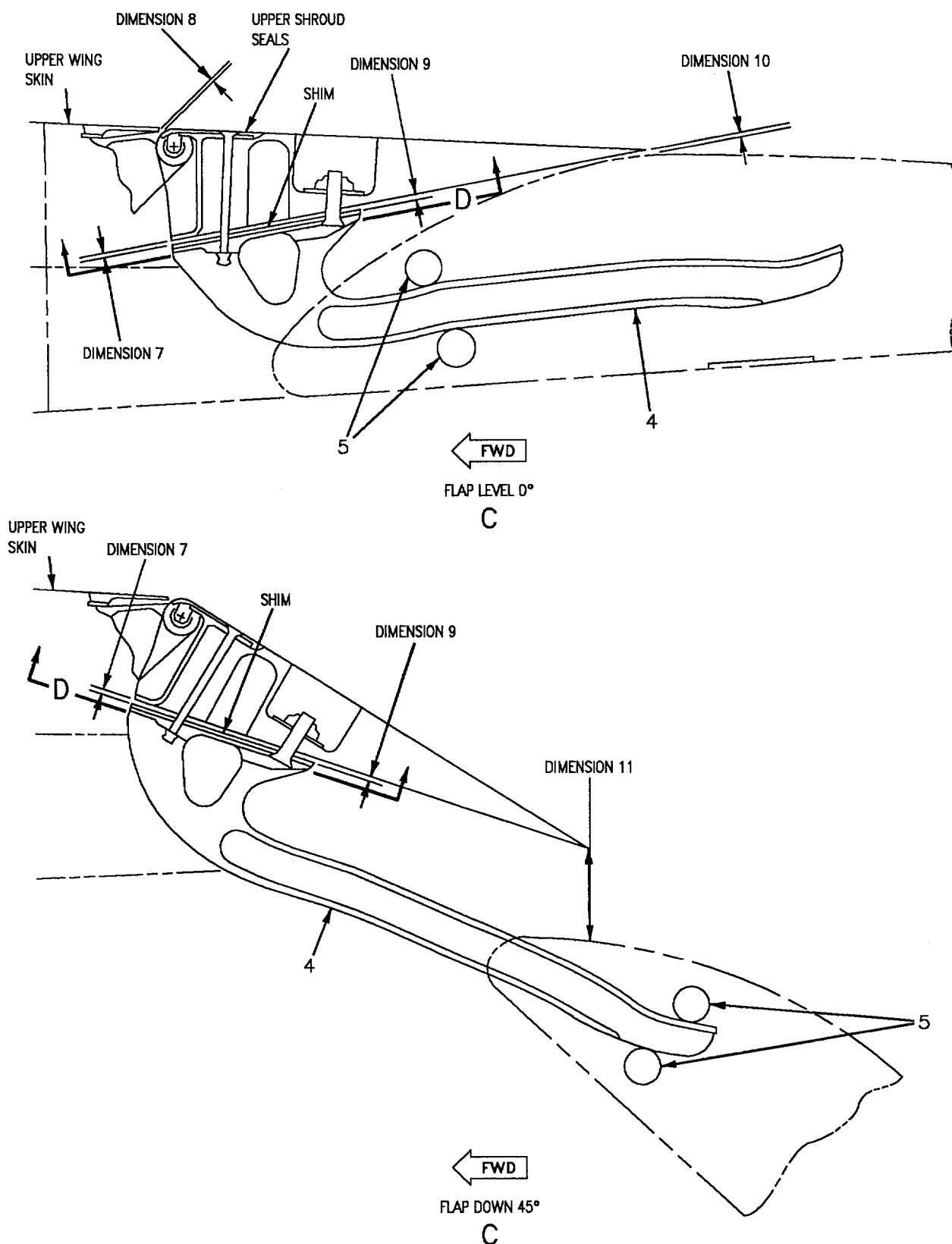


Figure 6. Flap Shroud Replacement (Sheet 3)

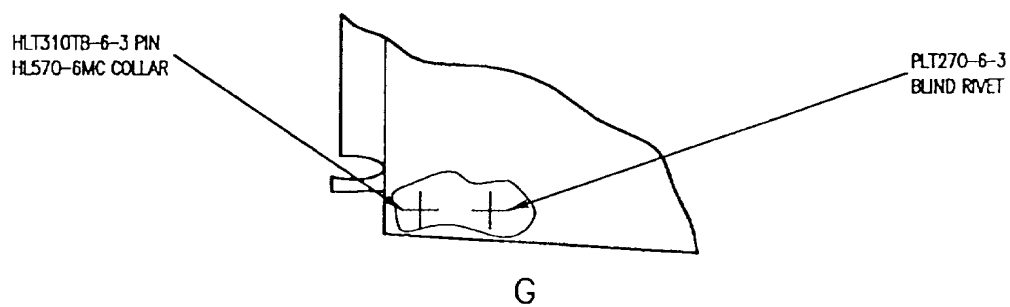
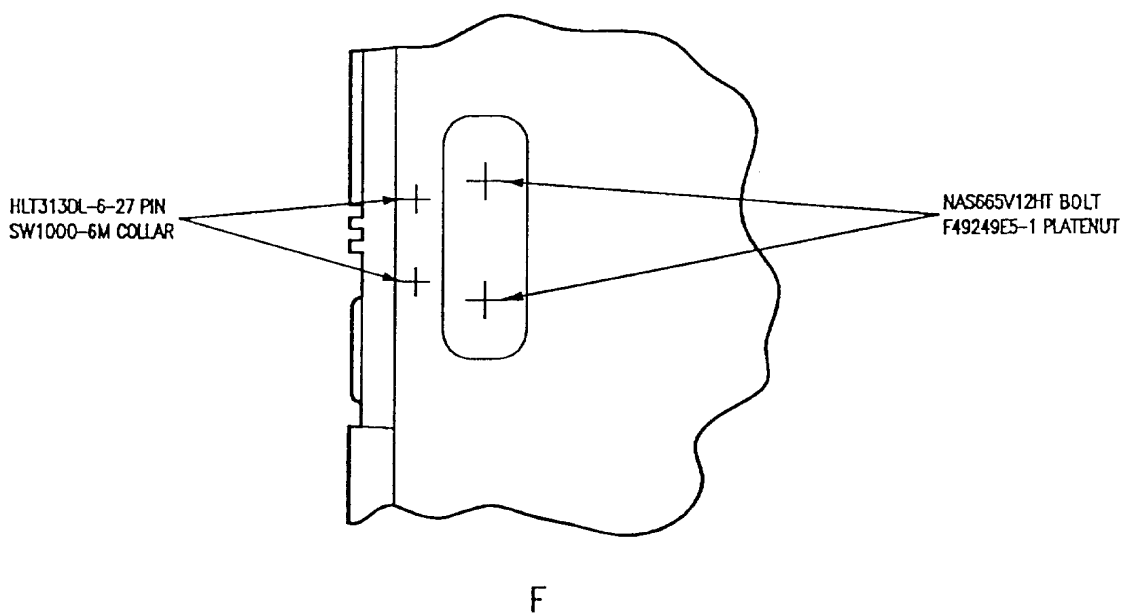
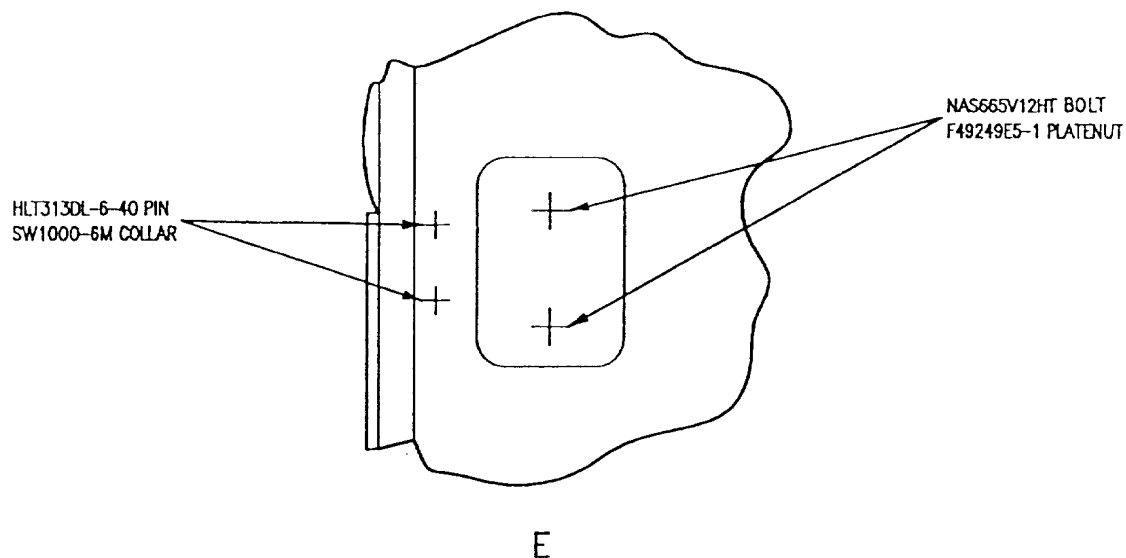
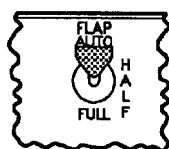
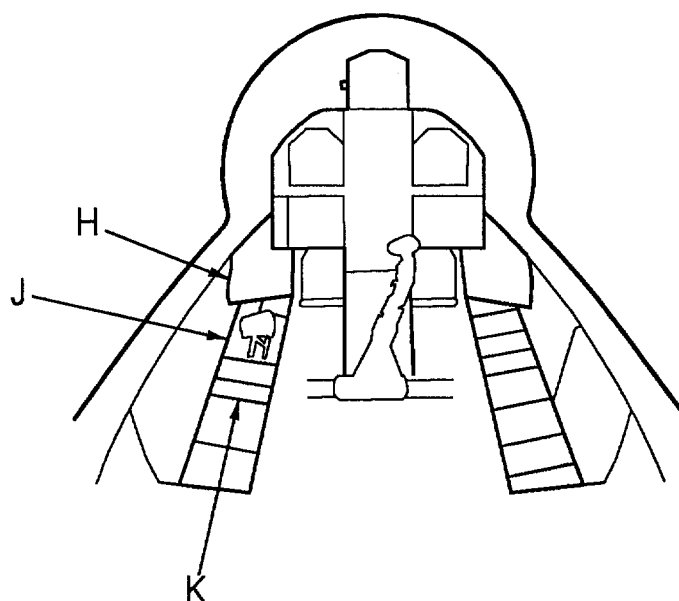
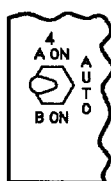


Figure 6. Flap Shroud Replacement (Sheet 4)



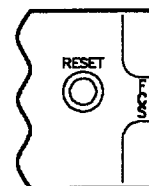
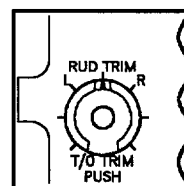
H

LH VERTICAL CONSOLE
CONTROL PANEL



J

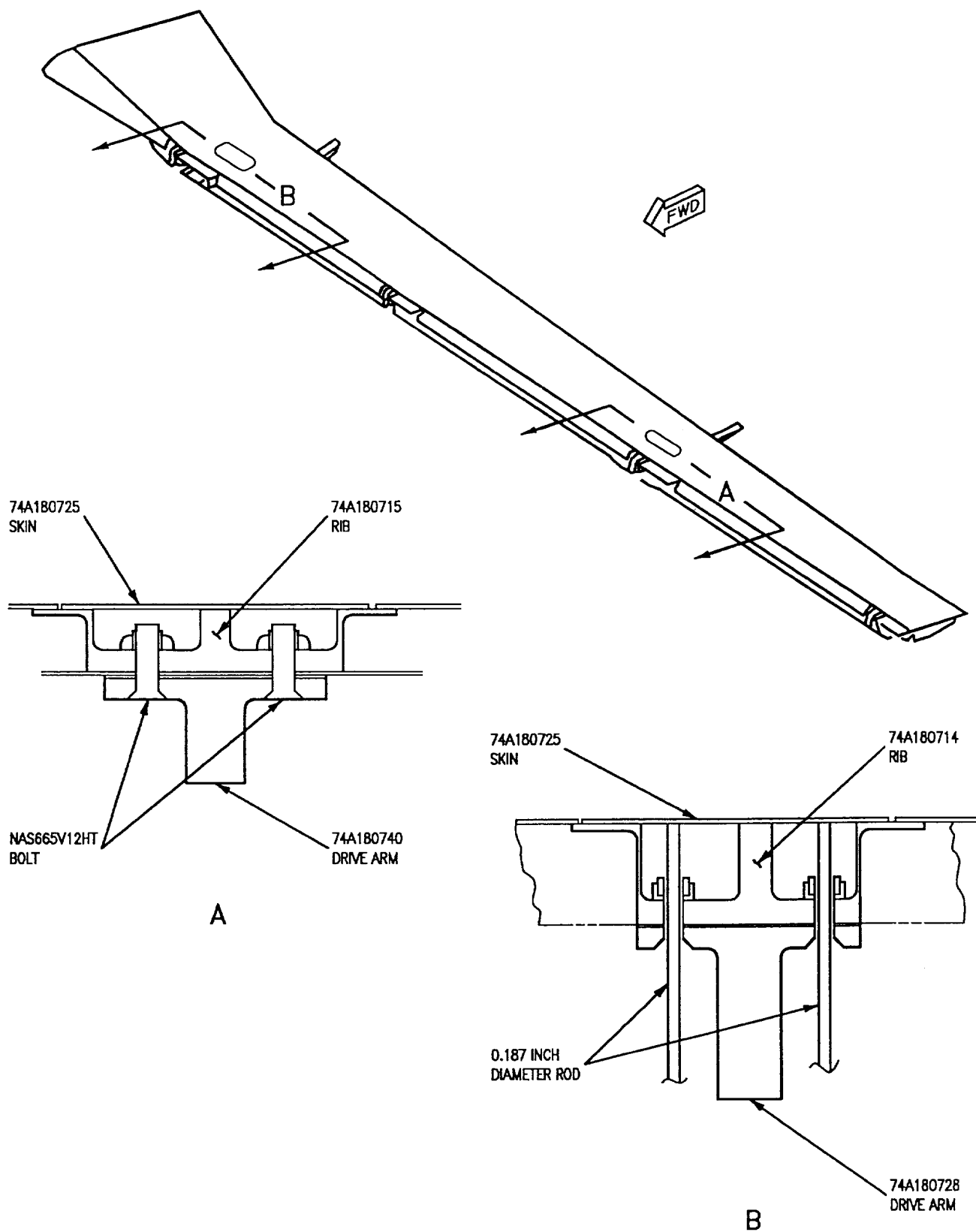
GND PWR CONTROL
PANEL ASSEMBLY



K

FCS CONTROL PANEL
C-10406/ASW-44

Figure 6. Flap Shroud Replacement (Sheet 5)



007007

Figure 7. 74A180725 Skin Replacement

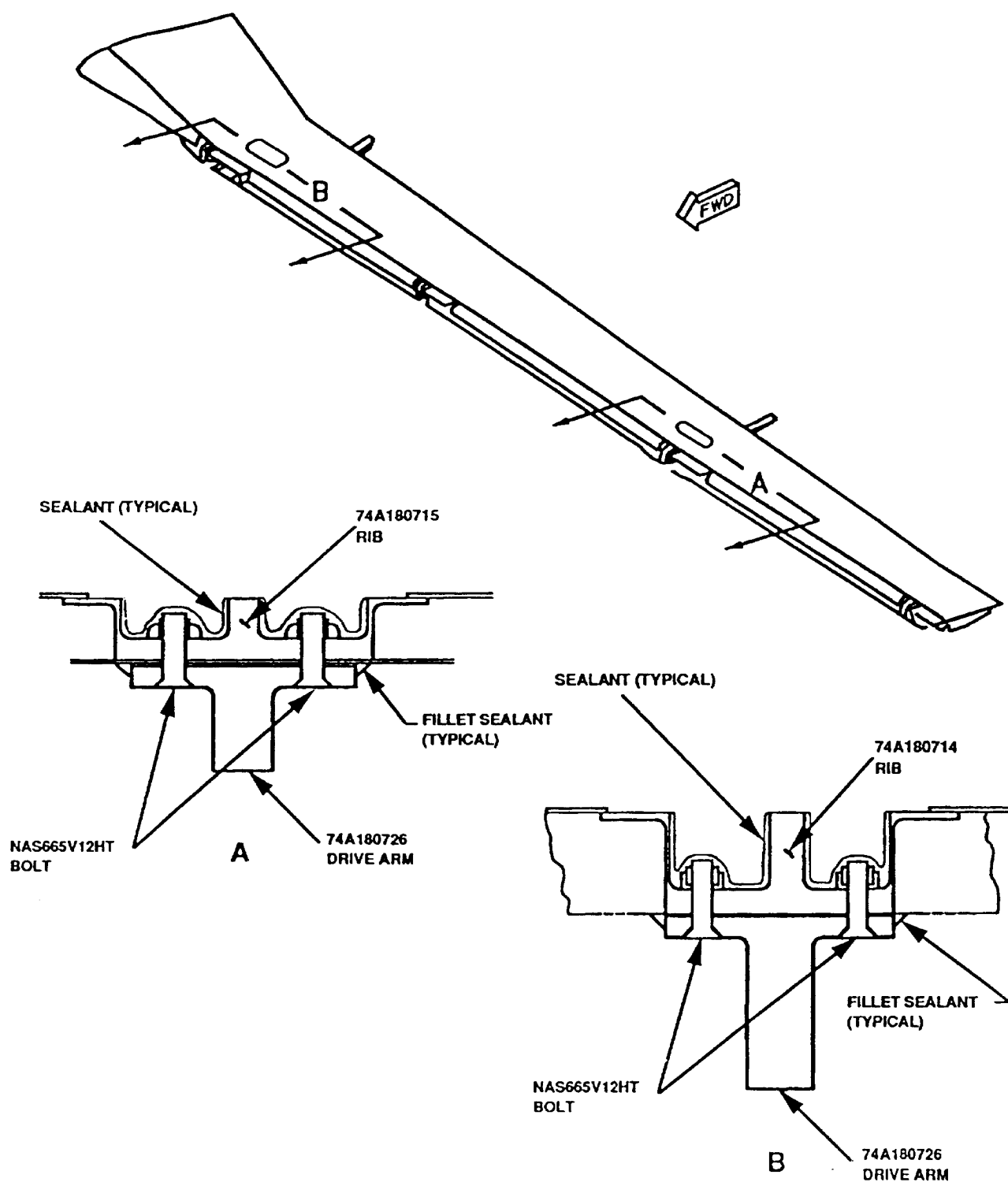


Figure 8. 74A180714/74A180715 Rib Sealing

DEPOT MAINTENANCE
STRUCTURE REPAIR
MAINTENANCE FIXTURE, RE174180103
TRAILING EDGE FLAP SHROUD

Reference Material

Structure Repair, General Information A1-F18AC-SRM-200
 Bushing Removal, Installation, and Reaming Tool Set, Part No. 74D110174-1001 WP004 37

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Installation of Inboard Drive Arm, 74A180728	3
Installation of Outboard Drive Arm, 74A180740	3
Installation of Roller Guide, 74A180699	4
Installation of Seals	4
Installation of Trailing Edge Flap Shroud into Maintenance Fixture	1
Locating and Inspecting Mold Line	2

Record of Applicable Technical Directives

None

1. DESCRIPTION.

2. The trailing edge flap shroud maintenance fixture (fixture) is used to evaluate and repair the trailing edge flap shroud (shroud). The fixture contains locators, for various details on the shroud and supports to hold the shroud in position during repair actions. The supports and locators also serve as gaging surfaces for damage inspection. Minor damage repairs and trimming may be done in the fixture. The fixture requires accurate leveling and verification with an alignment kit, before use and should be gage recycled with the trailing edge flap shroud alignment kit to verify fixture remains accurate.

3. INSTALLATION OF TRAILING EDGE FLAP SHROUD INTO MAINTENANCE FIXTURE. See figure 1.

Support Equipment Required

None

Materials Required

None

NOTE

All removable and/or rotating details shall be removed or retracted before installing shroud.

Pin retainer brackets must be removed from shroud to allow shroud to be pinned into fixture. Slight modification or removal of pin retainer gang channels may be required to align shroud hinges with fixture.

a. Install locators (detail 133) for XW56.800, (detail 136) for XW84.490, (detail 142) for XW117.290 on supports (details 13 and 30) using L-pins (detail 111) and hand knobs (detail 112), views A, C, and D.

NOTE

If 74A180717 seal is installed on shroud, do not attach locator (detail 130) per step below, view A.

b. Attach locators (detail 130, 131, and 132) to locator (detail 133) using L-pins (detail 148) and hand knob (detail 149), view A.

c. Attach locators (details 137 and 138) using L-pin (detail 148) and hand knob (detail 150), view C.

d. Attach locators (details 143 and 144) using L-pins (detail 148) and hand knob (detail 150), view B.

e. Attach locators (detail 159, 161, and 162) for XW153.090 using L-pins (detail 155) and hand knob (detail 158), view F.

f. Insert drill bushing (detail 164) into locator (detail 161) and drill bushing (detail 171) into locator (detail 159), view F.

NOTE

If 74A180717 seal is installed on shroud, insert L-pin (detail 38) at hinge point XW56.800, view A.

g. Align shroud hinge points with applicable fixture details and insert L-pins (detail 15) through fixture and shroud at XW56.800, view A, and XW84.490 and XW117.290, views C and D.

h. Insert pin (detail 270) through bushings and shroud at XW153.090, view F.

i. Locate shroud inboard/outboard by holding hinge point at XW153.090 outboard against locator (detail 271), view F.

4. LOCATING AND INSPECTING MOLD LINE. See figure 2.

Support Equipment Required

None

Materials Required

None

5. Locating Upper and Lower Mold Line.

a. Swing inboard upper mold line locator (detail 115) and outboard upper mold line locator (detail 119) into position, view A.

b. Swing inboard lower mold line locator (detail 116) and outboard lower mold line locator (detail 120) into position, view A.

c. Insert L-pins (detail 109) and hand knobs (detail 112) at inboard and outboard locations, view A.

d. Slide subassemblies A at inboard and outboard locations up until trailing edge of shroud is seated firmly, and tighten hand knobs (detail 122), view B.

e. Attach supports (detail 126, and 127) to subassembly F using hand knob (detail 158), view C.

f. Attach locator (detail 263) to support (detail 126) with hand knobs (detail 124) but do not tighten completely, view C.

g. Slide locator (detail 263) until contacting shroud and clamp shroud to locator (detail 263). Protect shroud by using pad between clamp and shroud.

h. Tighten hand knobs (detail 124).

i. Attach support (detail 113) to subassembly F, three places, with hand knobs (detail 158), view D.

j. Attach locators (detail 125) loosely to supports (detail 113) with hand knobs (detail 124), three places, view D.

k. Slide locators (detail 125), three places, until contacting shroud.

l. Tighten hand knobs (detail 124), view D.

m. Attach support (detail 113) to subassembly F with hand knob (detail 158), view E.

n. Attach locator (detail 123) to support (detail 113) with hand knobs (detail 124), view E.

o. Slide locator (detail 123) until contacting shroud.

p. Tighten hand knobs (detail 124), view E.

6. Inspecting Mold Line Contour.

a. Install contour boards (details 104 and 105) on subassembly F using L-pins (detail 109) and hand knobs (detail 112), view F.

b. Install contour boards (details 107 and 108) on subassembly F using L-pins (detail 155) and hand knobs (detail 112), view G.

c. Inspect gap between contour boards (details 104 and 105, and 107 and 108) with go/no-go gage (detail 273), view H.

NOTE

Make sure L-pins (detail 207) are removed and locators (details 212, 213, and 214) are retracted before installing locators (details 27, 28, and 29).

d. Attach locators (details 27, 28, and 29) to subassembly F using hand knobs (detail 158), view J.

e. Swing locators (details 212, 213, and 214) into position and insert L-pins (detail 207), view J.

f. Inspect gap between shroud and locators (detail 212, 213, and 214 and 215, 216, and 217) with go/no-go gage (detail 273), view K.

7. INSTALLATION OF OUTBOARD DRIVE ARM, 74A180740. See figure 3.

Support Equipment Required

None

Materials Required

None

8. Installing Drive Arm.

a. Attach angle (detail 221) to subassembly F using L-pin (detail 109) and hand knob (detail 112), view A.

b. Install supports (details 181 and 220) on support (detail 13) and angle (detail 221) using L-pins (detail 109) and hand knobs (detail 112), view A.

c. Install support (detail 195), and locator (detail 26), two places, on support (detail 181) using L-pins (detail 155) and hand knobs (detail 158), view B.

d. Install locator (detail 193) on support (detail 181) using L-pins (detail 155) and hand knob (detail 158), view B.

e. Position drive arm at inboard/outboard location against locator (detail 32) on locators (detail 26), and in forward/aft location against locator (detail 218), views B and C.

f. Clamp drive arm in place by tightening socket head screws (detail 197), two places, and thumb screw (detail 196) until drive arm is snug against shroud, view B. Add more clamps if required to secure drive arm.

g. Attach drill guide (detail 20) to subassembly F using L-pins (detail 109) and hand knobs (detail 112), view D.

9. INSTALLATION OF INBOARD DRIVE ARM, 74A180728. See figure 4.

Support Equipment Required

None

Materials Required

None

10. Installing Drive Arm.

a. Install support (detail 176) on subassembly F using L-pins (detail 109) and hand knobs (detail 112), view A.

b. Install locators (details 24 and 25) on support (detail 176) using L-pins (detail 155) and hand knobs (detail 158), view B.

c. Install locator (detail 223) on support (detail 176) using L-pins (detail 155) and hand knob (detail 158), view B.

d. Position drive arm at inboard/outboard location against locator (detail 31) on locators (details 24 and 25), and in forward/aft location against locator (detail 218), views B and C.

e. Clamp drive arm in place by tightening socket head screws (detail 197), two places, and thumb screw (detail 196) until drive arm is snug against shroud, view B. Add more clamps if required to secure drive arm.

f. Attach drill guide (detail 19) to subassembly F using L-pins (detail 109) and hand knobs (detail 112), view D.

11. INSTALLATION OF SEALS. See figure 5.

Support Equipment Required

None

Materials Required

None

12. Seal 74A180717, and Clips.

a. Attach locators (details 267 and 268) to supports (details 21 and 23), respectively, using hand knobs (detail 158), view A.

b. Locate seal next to locators (details 267 and 268) for forward/aft location and inboard closure rib for inboard/outboard location.

c. Locate clips next to seal and structure and clamp in place.

13. Seals, 74A180751 and 74A180702.

a. Attach angle (detail 178) to subassembly F using hand knob (detail 124), views E and F.

b. Rotate locators (detail 208 and 230) into position and pin in place using L-pin (detail 109), view G.

c. Rotate locators (details 228 and 229) into position and pin in place using L-pins (detail 109), views H and J.

d. Locate seals next to shroud structure and against locators (details 208 and 228), views G, H, and J.

14. INSTALLATION OF ROLLER GUIDE, 74A180699. See figure 6.

Support Equipment Required

None

Materials Required

None

a. Clamp shroud in place on locator (detail 263) then remove outboard hinge locator (detail 162).

b. Attach angle (detail 209) and locator (detail 210) to subassembly F using L-pins (detail 155) and hand knob (detail 158), view A.

c. Locate roller guide forward/aft next to outboard closure rib with shim installed and inboard/outboard next to locator (detail 210), view B.

d. Clamp roller guide in place.

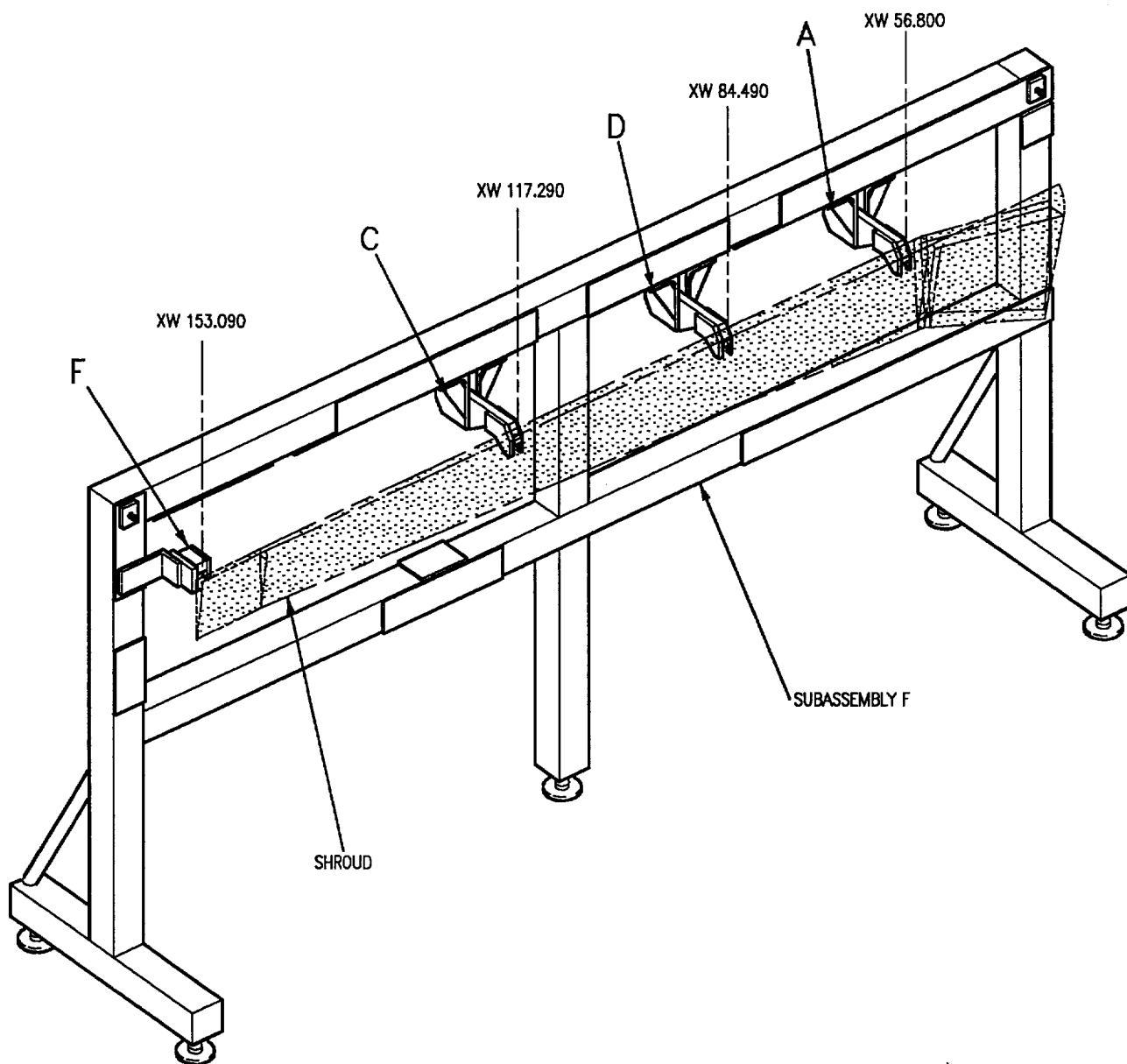
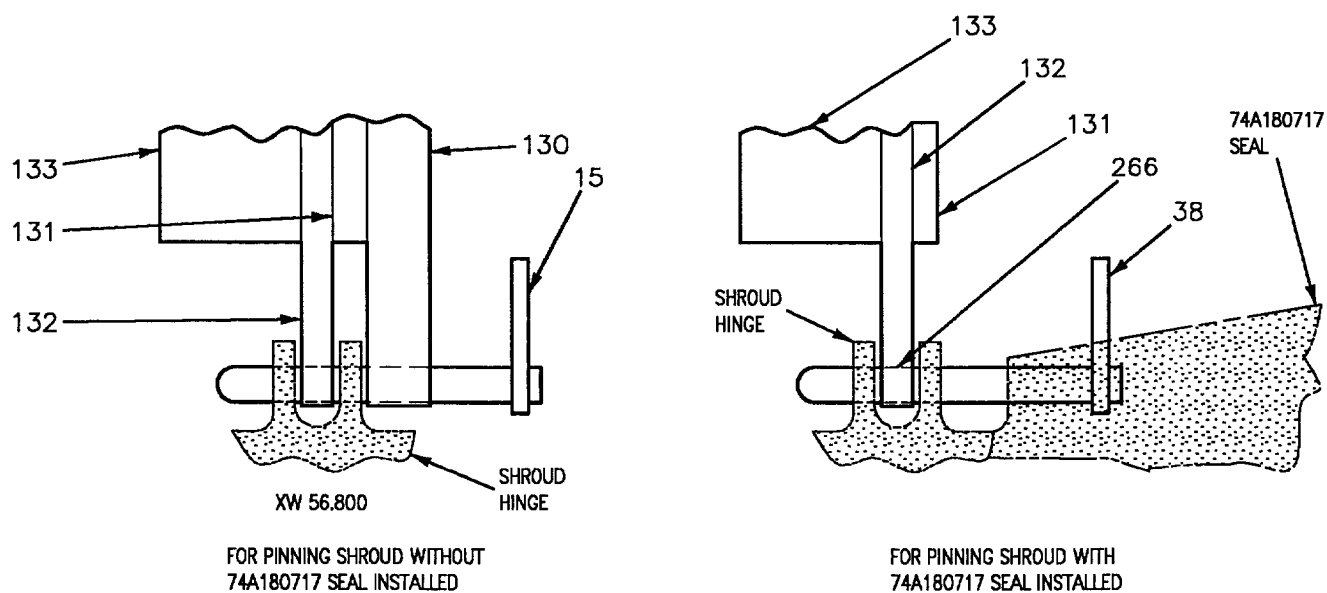
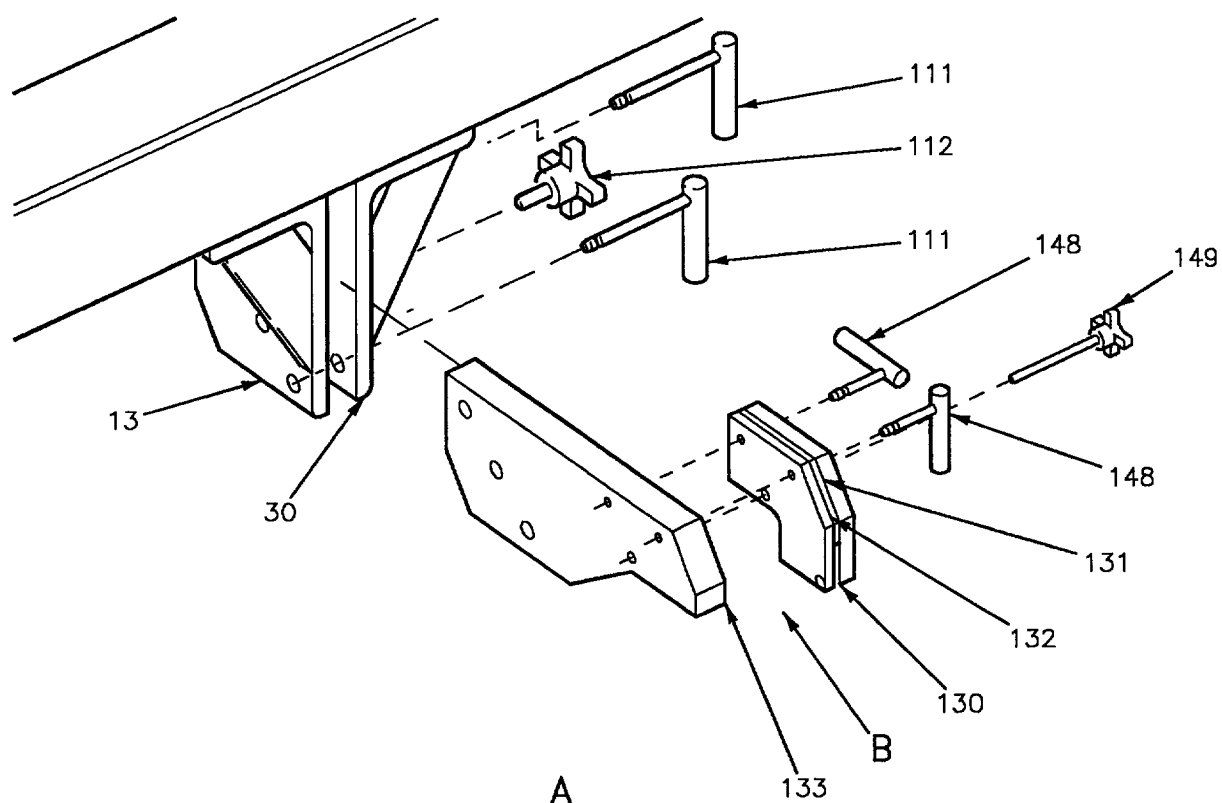


Figure 1. Installation of Shroud Into Maintenance Fixture (Sheet 1)



FOR PINNING SHROUD WITHOUT
74A180717 SEAL INSTALLED

FOR PINNING SHROUD WITH
74A180717 SEAL INSTALLED

B

Figure 1. Installation of Shroud Into Maintenance Fixture (Sheet 2)

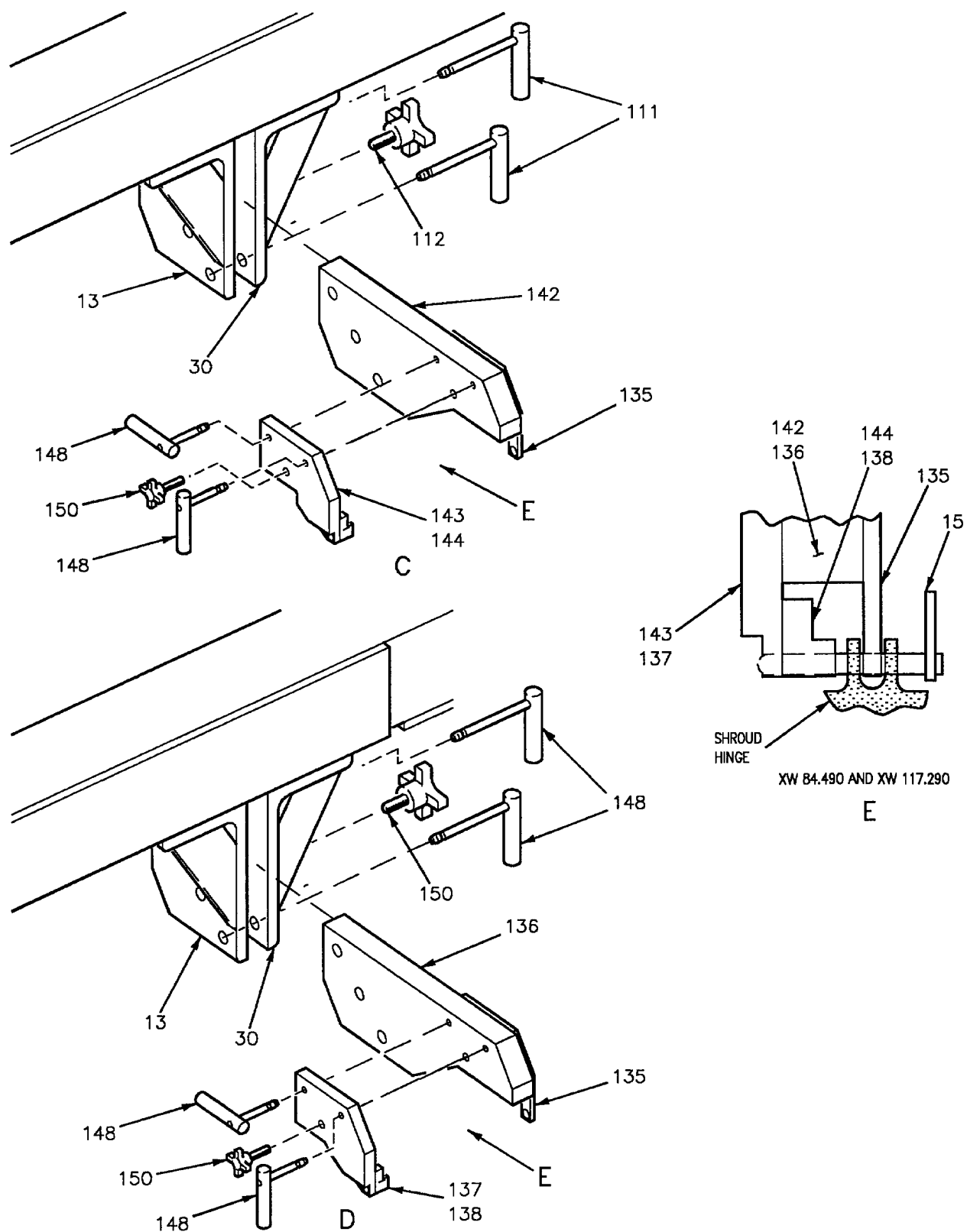


Figure 1. Installation of Shroud Into Maintenance Fixture (Sheet 3)

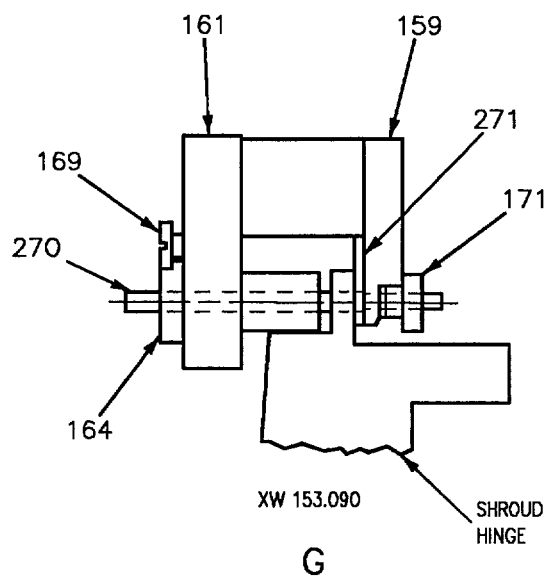
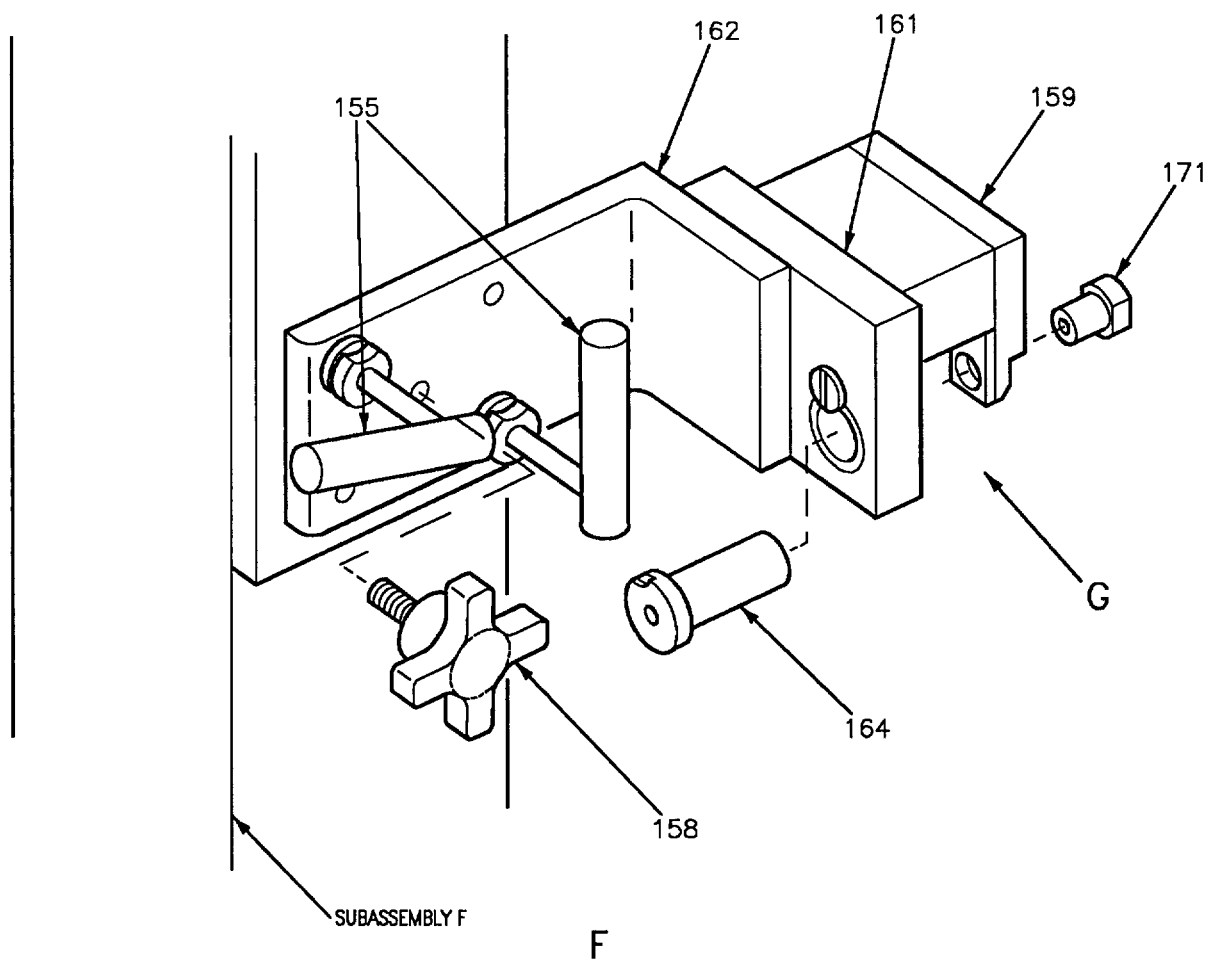


Figure 1. Installation of Shroud Into Maintenance Fixture (Sheet 4)

Detail No.	Name	Function
Subassembly F	Frame	Main support for all details.
13, 30	Support	Supports and aligns details 130, 136, and 142.
15	Pin	Locates shroud in fixture.
38	L-Pin	Locates shroud in fixture at XW56.800.
111	L-Pin	Locates and attaches details 130, 136, and 142 between details 13 and 30.
112	Hand Knob	Secures details to supports.
130	Locator	Locates L-pin for attaching shroud.
131, 132	Locator	Locates details for installing shroud.
133	Locator	Locates details for installing shroud at XW56.800.
136	Locator	Locates details for installing shroud at XW84.490.
137	Locator	Locates L-pin for installing shroud.
138	Locator	Locates L-pin for attaching shroud.
142	Locator	Locates details for installing shroud at XW117.290.
143	Locator	Locates details for installing shroud.
144	Locator	Locates L-pin for attaching shroud.
148	L-Pin	Locates and attaches various details to details 130, 136, and 142.
149, 150	Hand Knob	Secures details to locators.
155	L-Pin	Locates and attaches detail 162 to subassembly F.
158	Hand Knob	Secures detail 162 to subassembly F.
159	Locator	Locates details for installing shroud.
161	Locator	Locates details for installing shroud.
162	Locator	Locates details for installing shroud at XW153.090.
164, 171	Drill Bushing	Guides L-pin and reamer into shroud hinge.
169	Lock Screw	Secures detail 164 into detail 161.
266	Bushing	Locates detail 38 in fixture.
270	Pin	Locates and attaches detail 159 and 161 to shroud.
271	Plate	Locates shroud for inboard location.

Figure 1. Installation of Shroud Into Maintenance Fixture (Sheet 5)

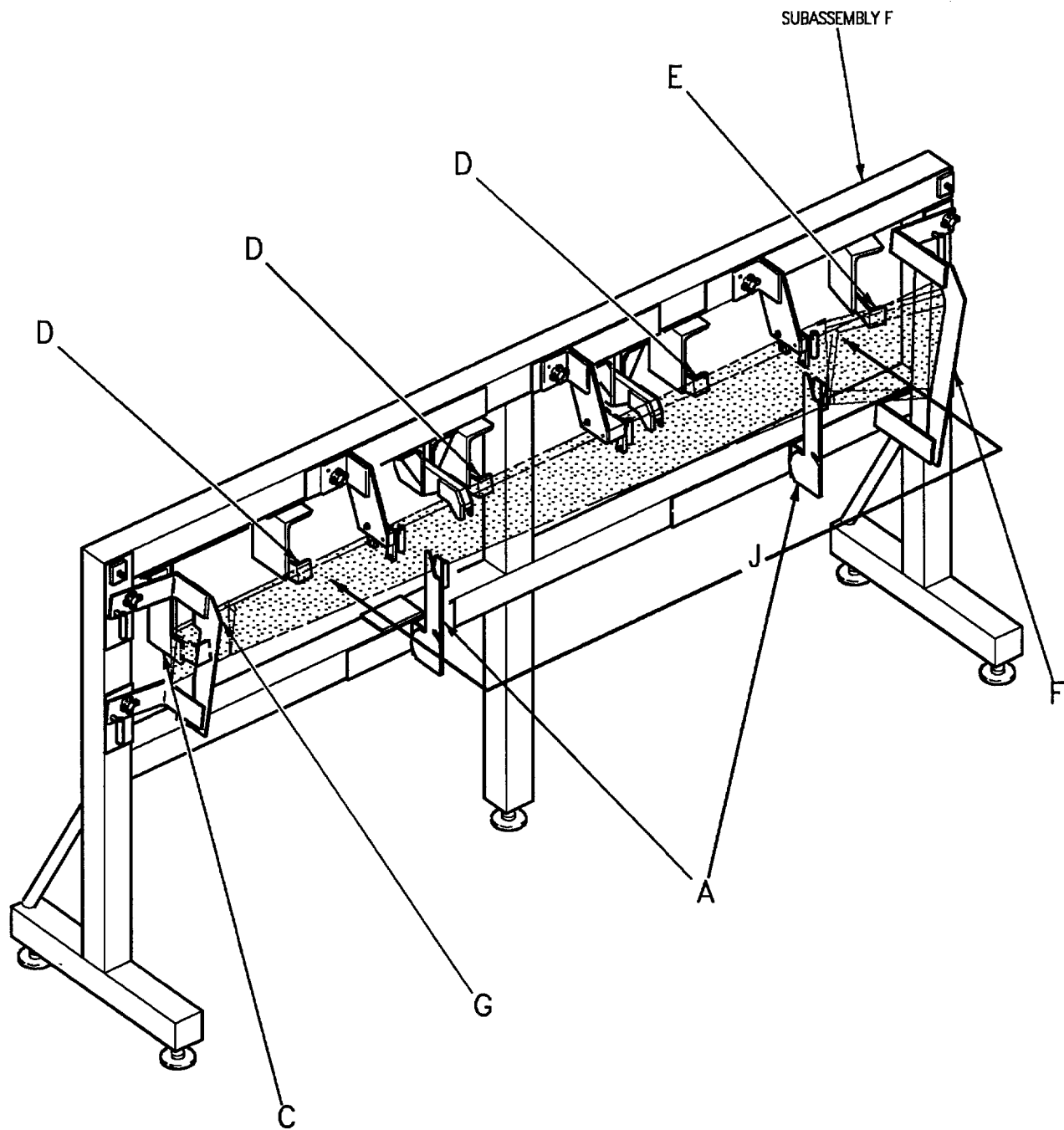


Figure 2. Mold Line Location and Inspection (Sheet 1)

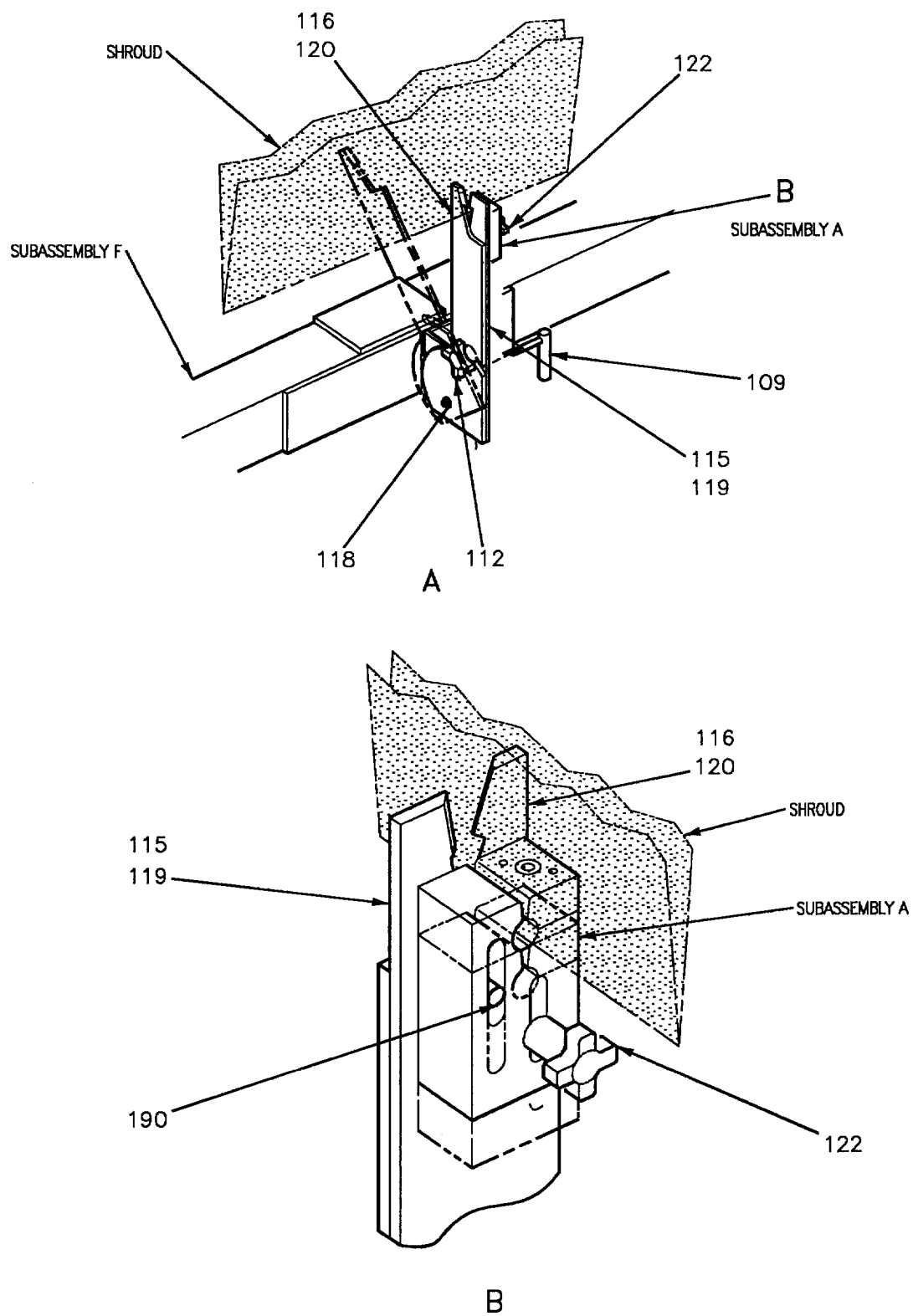


Figure 2. Mold Line Location and Inspection (Sheet 2)

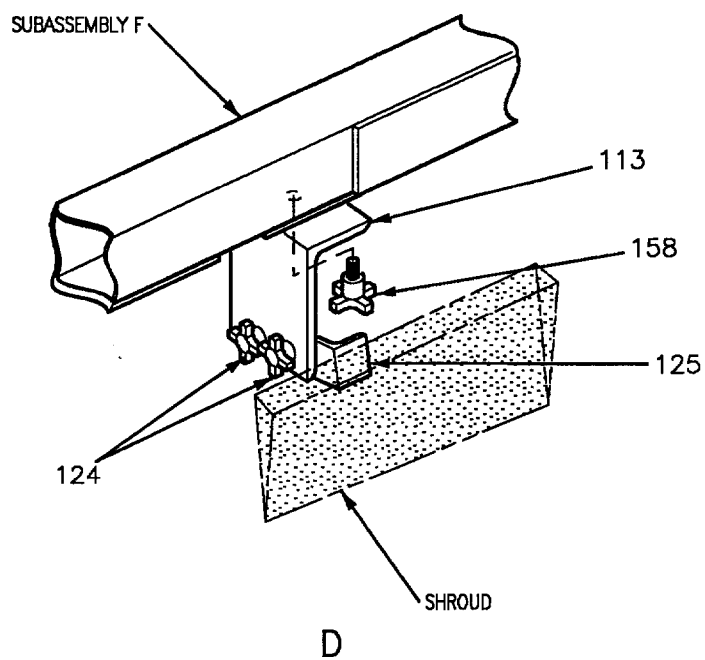
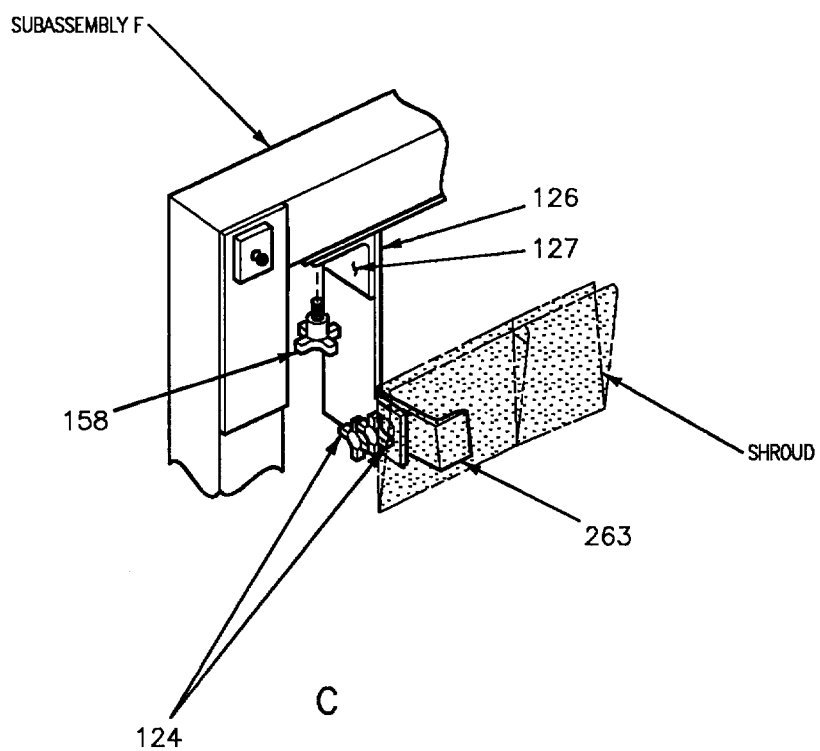


Figure 2. Mold Line Location and Inspection (Sheet 3)

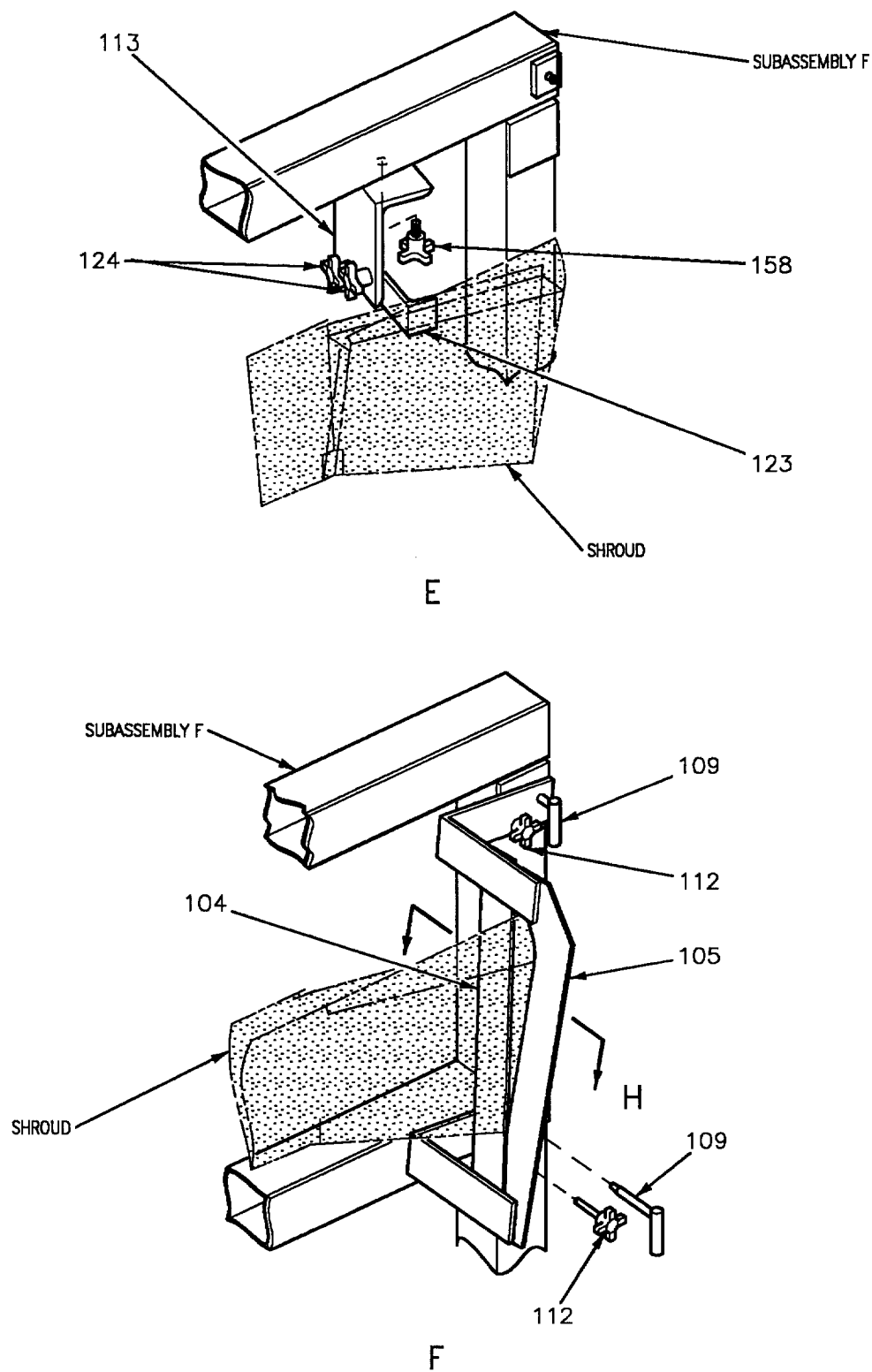
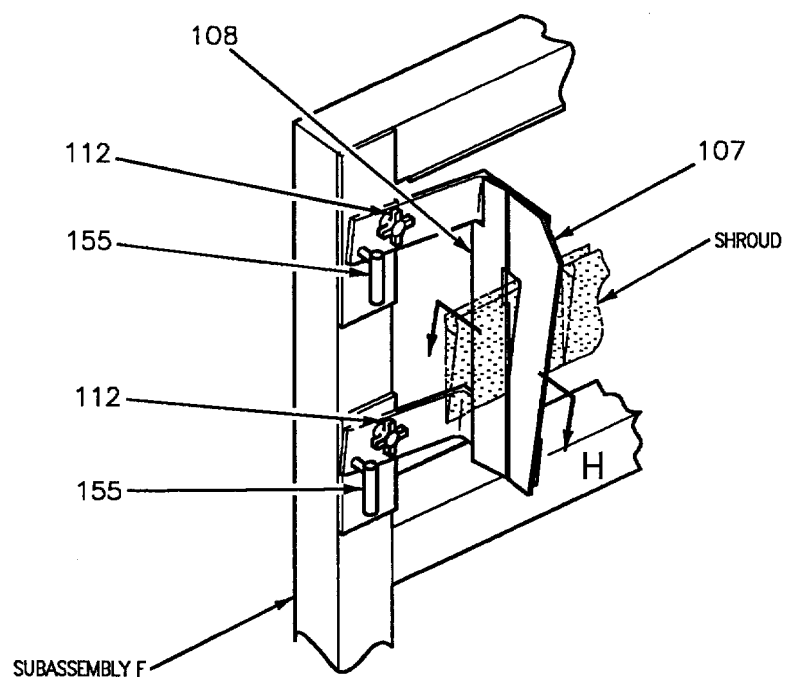
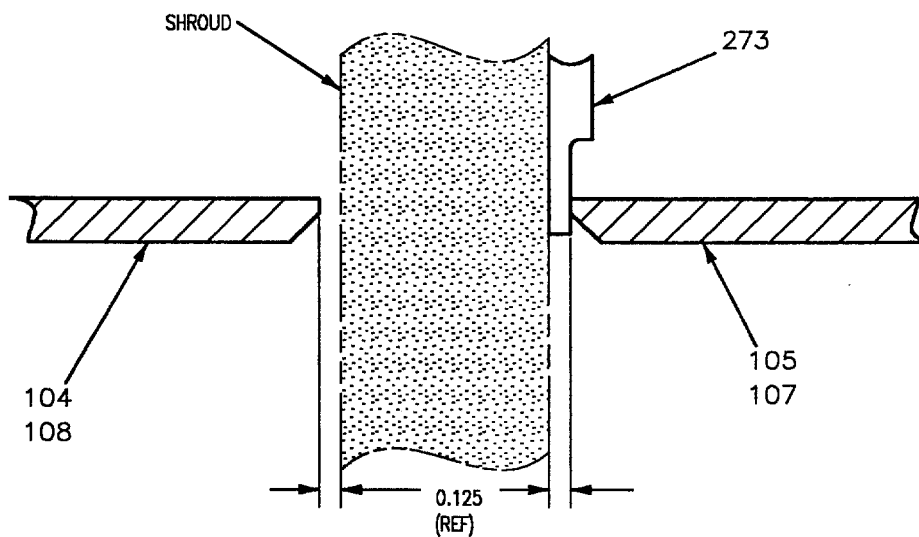


Figure 2. Mold Line Location and Inspection (Sheet 4)



G



H

Figure 2. Mold Line Location and Inspection (Sheet 5)

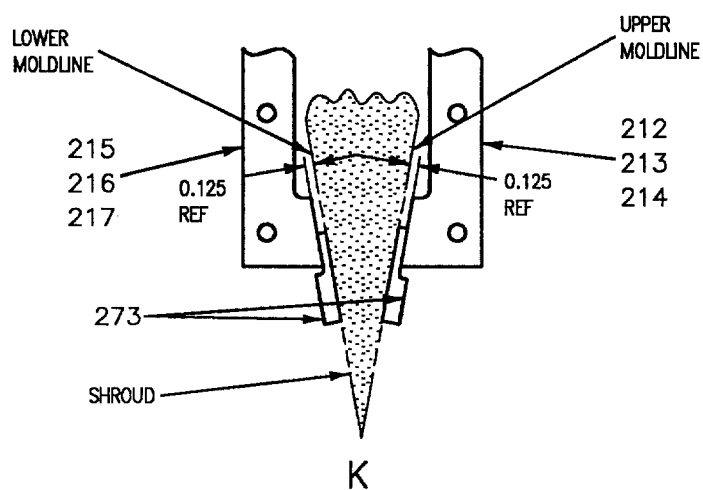
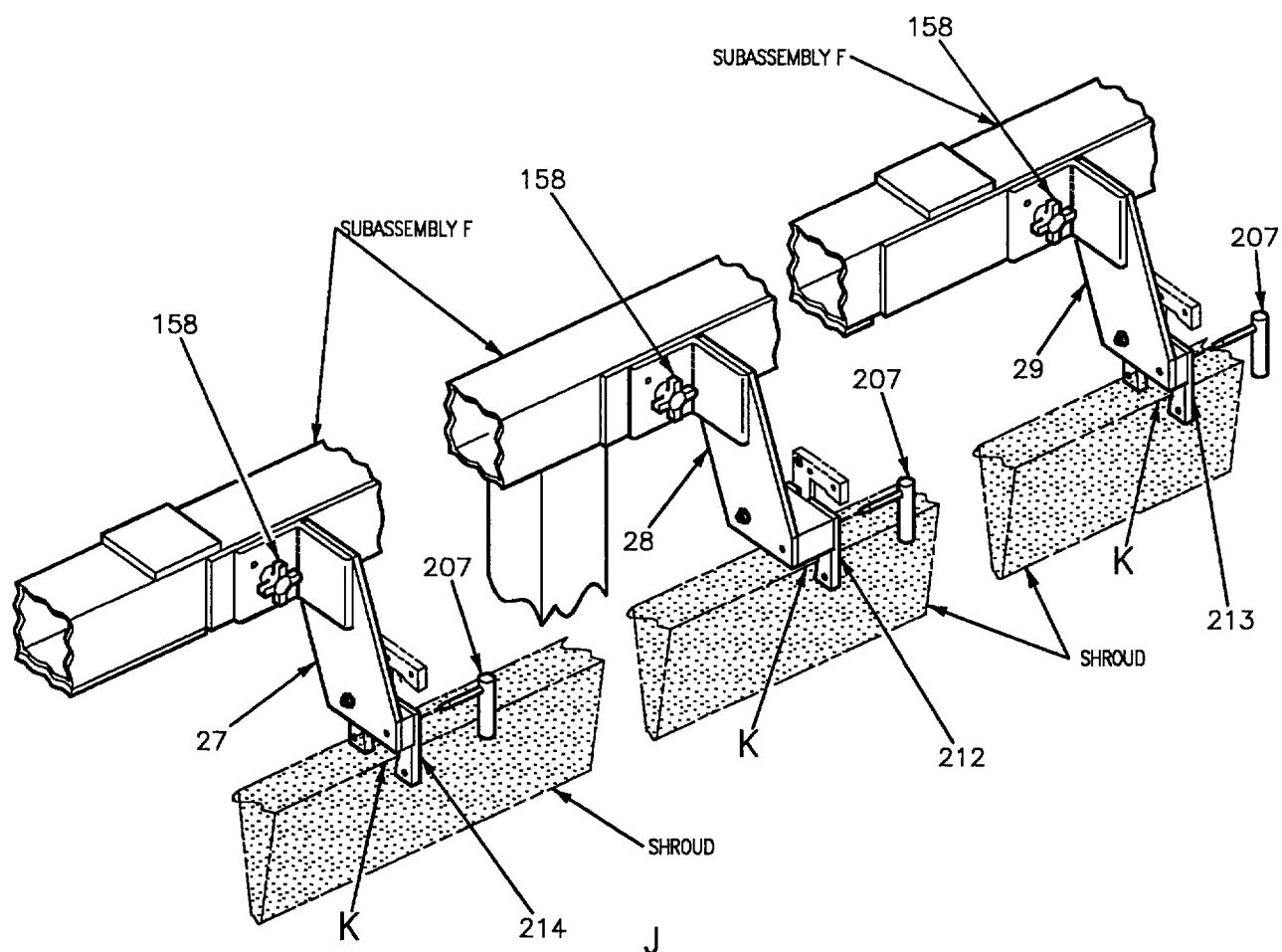


Figure 2. Mold Line Location and Inspection (Sheet 6)

Detail No.	Name	Function
Subassembly A	Block	Locates trailing edge mold line.
Subassembly F	Frame	Main support for all details.
27, 28, 29	Locator	Locates details for contour inspection.
104	Contour Board	Inspects upper inboard edge contour of shroud.
105	Contour Board	Inspects lower outboard edge contour of shroud.
107	Contour Board	Inspects upper outboard edge contour of shroud.
108	Contour Board	Inspects lower outboard edge contour of shroud.
109	L-Pin	Locates and attaches inboard contour boards and trailing edge details.
112	Hand Knob	Secure contour boards and trailing edge details.
113	Support	Supports details 123 and 125.
115, 119	Locator	Locates upper mold line at trailing edge.
116, 120	Locator	Locates lower mold line at trailing edge.
118	Pivot Pin	Allows details to rotate.
122	Hand Knob	Secures subassembly A to details 115, 116, 119 and 120.
123	Locator	Locates lower mold line.
124	Hand Knob	Secures various details to others.
126, 127	Support	Supports detail 125.
155	L-Pin	Locates and attaches details 107 and 108.
158	Hand Knob	Secures details 27, 28, and 29 to Subassembly F.
190	Dowel Pin	Aligns subassembly A.
207	L-Pin	Locates locators (details 212, 213, and 214) in place for upper mold line inspection.
212, 213, 214	Locator	Locates upper mold line along shroud.
215, 216, 217	Locator	Locates lower mold line along shroud.
263	Locator	Locates lower mold line.
273	Go/No-Go Gage	Determines correct gap at various details.

Figure 2. Mold Line Location and Inspection (Sheet 7)

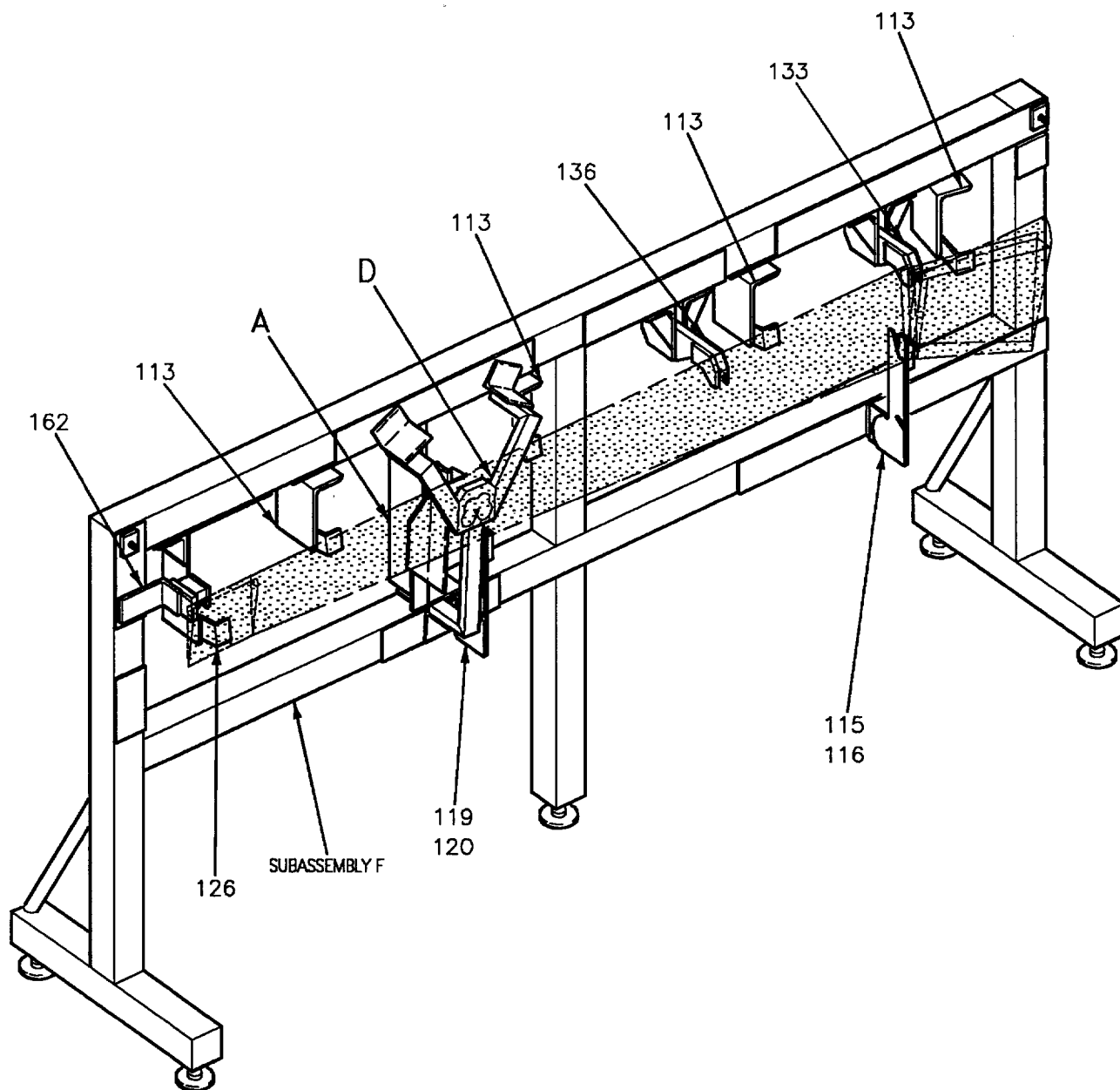


Figure 3. Outboard Drive Arm, 74A180740 (Sheet 1)

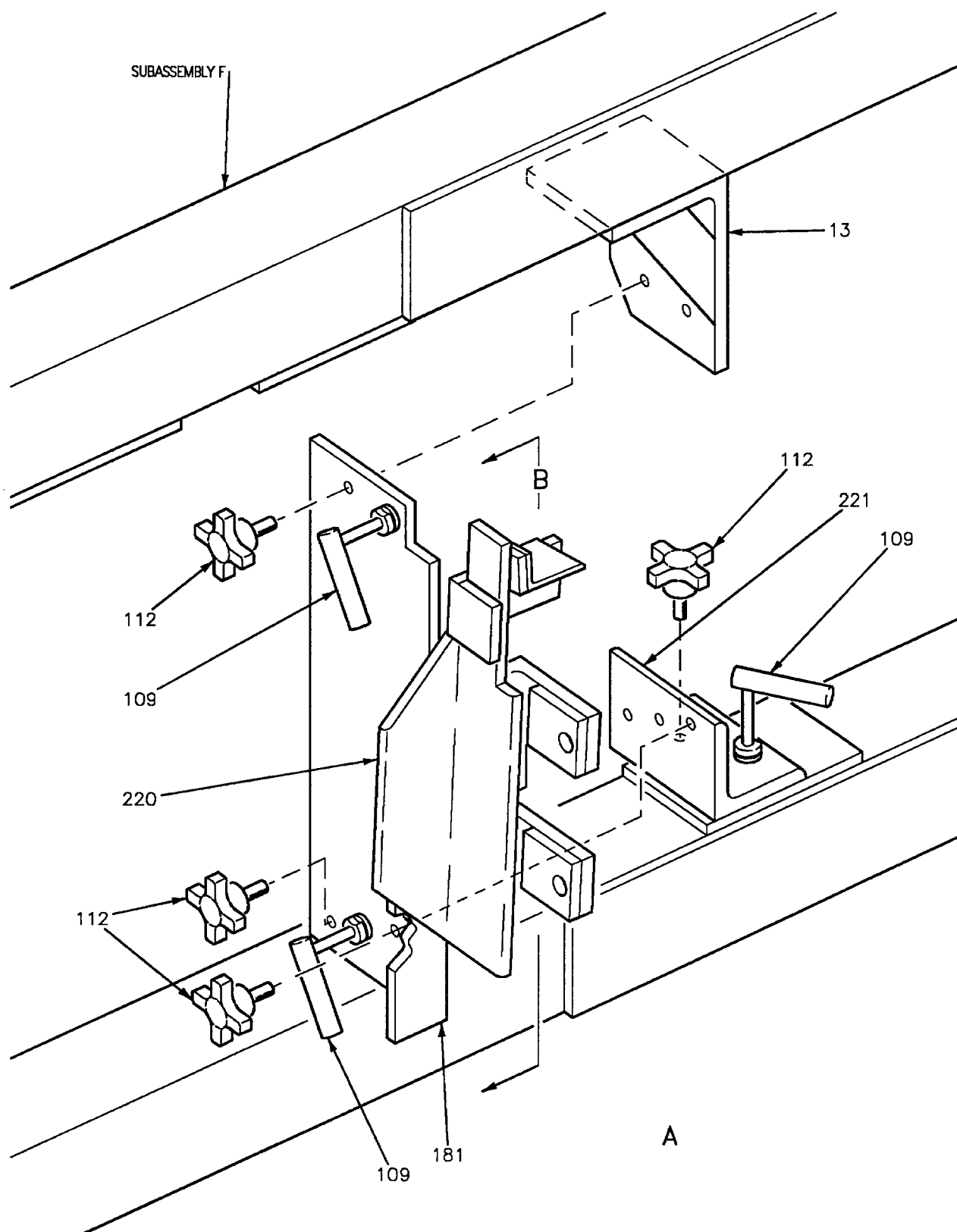


Figure 3. Outboard Drive Arm, 74A180740 (Sheet 2)

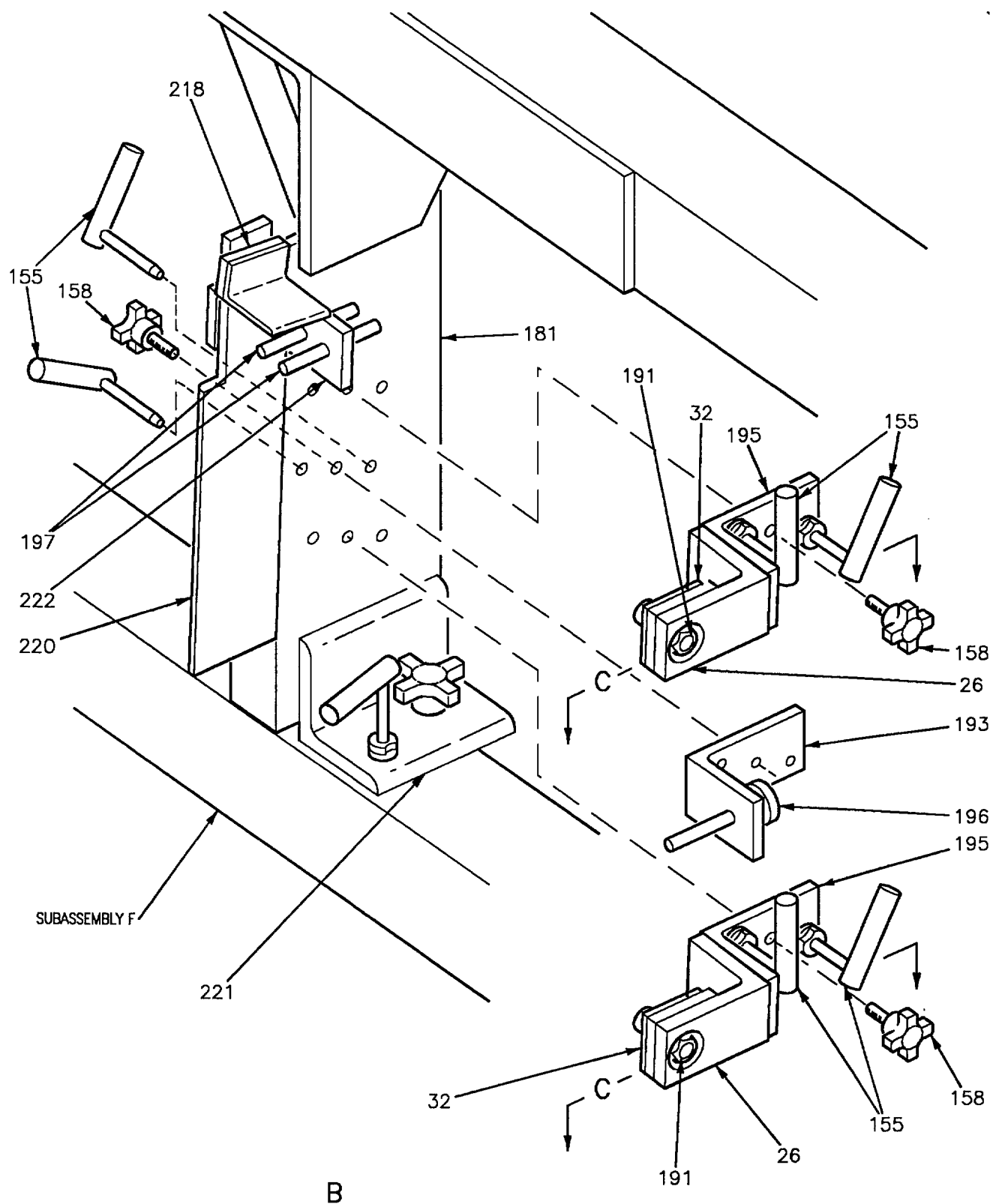


Figure 3. Outboard Drive Arm, 74A180740 (Sheet 3)

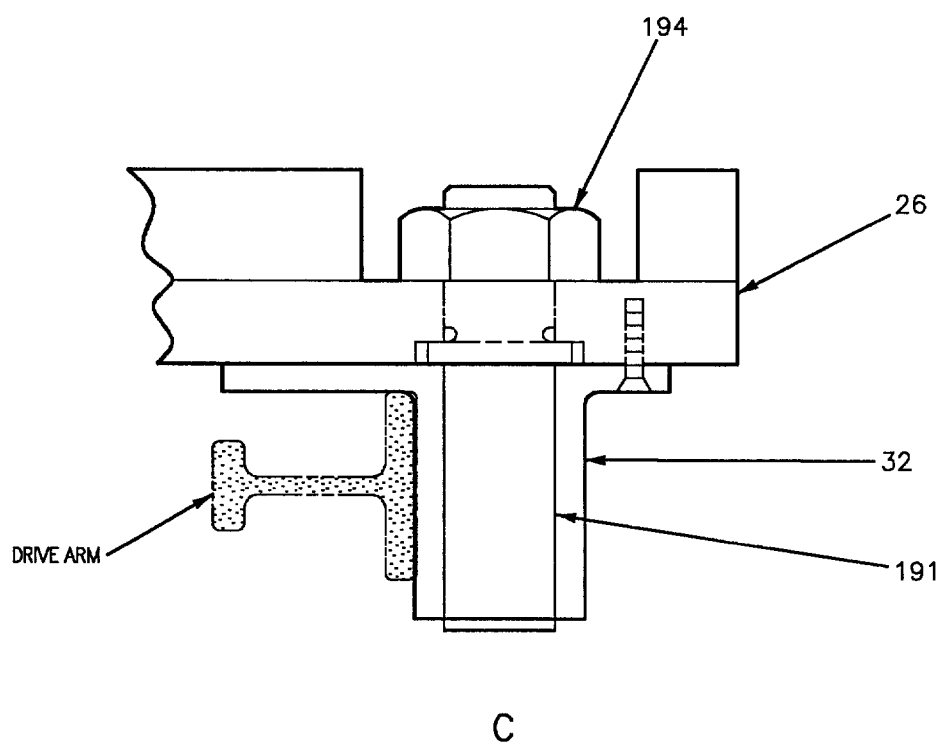


Figure 3. Outboard Drive Arm, 74A180740 (Sheet 4)

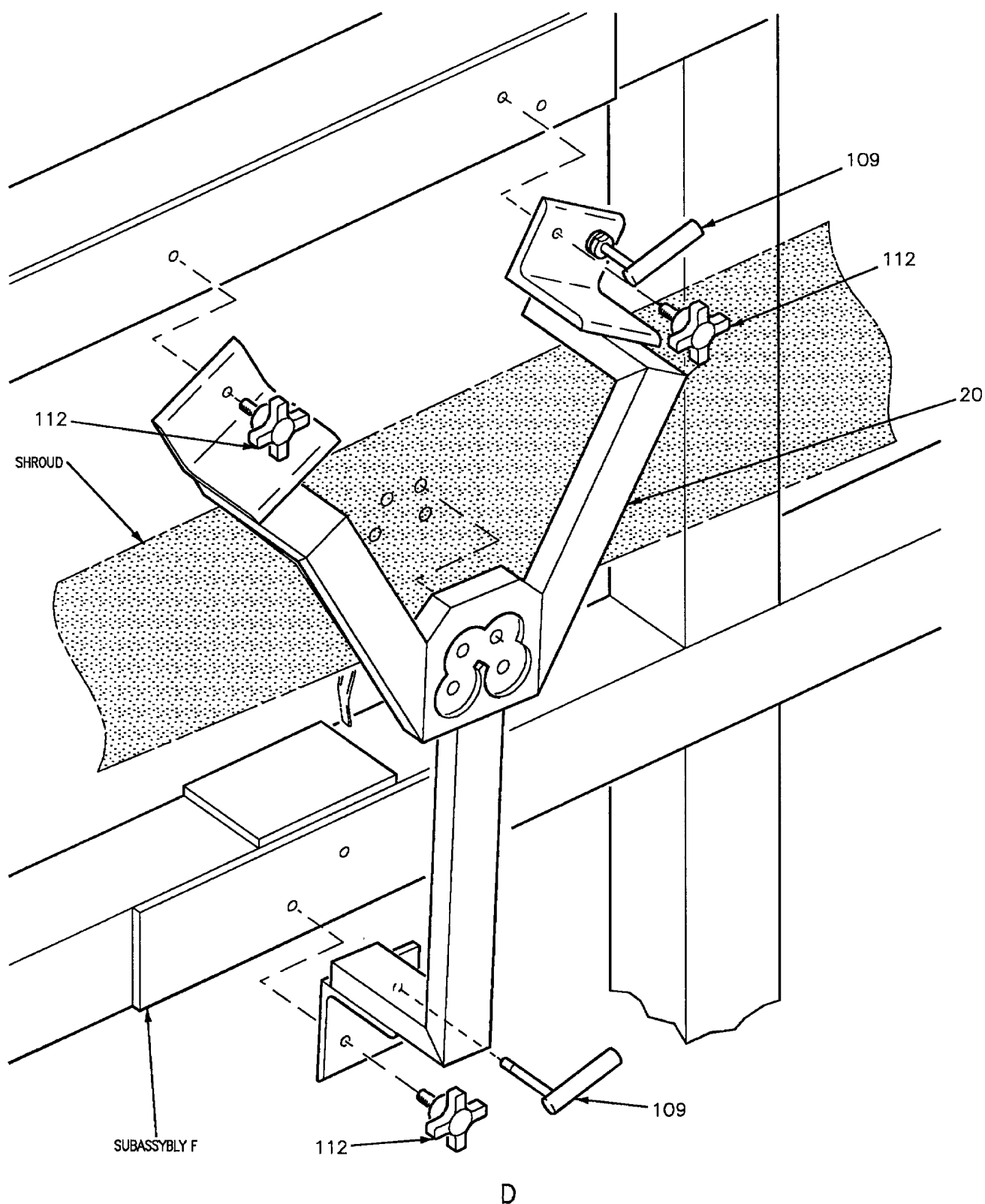


Figure 3. Outboard Drive Arm, 74A180740 (Sheet 5)

Detail No.	Name	Function
Subassembly F	Frame	Main support for all details.
13	Support	Support for all details.
20	Drill Guide	Guides drills and reamers for outboard drive arm replacement.
26	Locator	Locates detail 191 for inspection and inspection of outboard drive arm.
32	Locator	Locates outboard drive arm at 2 places.
109	L-Pin	Locates and attaches various details to supports or subassembly F.
112	Hand Knob	Secures details 20, 181, and 220 to subassembly F.
113	Support	Supports various details.
115, 119	Locator	Locates upper mold line at trailing edge.
116, 120	Locator	Locates lower mold line at trailing edge.
126	Support	Supports mold line locator.
133	Locator	Locates details for installing shroud at XW56.800.
136	Locator	Locates details for installing shroud at XW84.490.
155	L-Pin	Locates details 26, 193, and 195 to detail 181.
158	Hand Knob	Secures details 26, 193, and 195 to detail 181.
162	Locator	Locates details for installing shroud at XW153.090.
181	Support	Supports various details for locating outboard drive arm.
191	Locator Bolt	Installed in details 26 for aligning outboard drive arm.
193	Locator	Locates outboard drive arm with detail 196.
194	Hex Nut	Secures detail 191 to details 26.
195	Support	Supports details 26.
196	Thumb Screw	Secures outboard drive arm in place through detail 193.
197	Socket Head Screw	Secure outboard drive arm in place through detail 222.
218	Locator	Locates outboard drive arm.
220	Support	Supports details for locating outboard drive arm.
221	Angle	Attaches detail 181 to subassembly F.
222	Locator	Locates outboard drive arm.

Figure 3. Outboard Drive Arm, 74A180740 (Sheet 6)

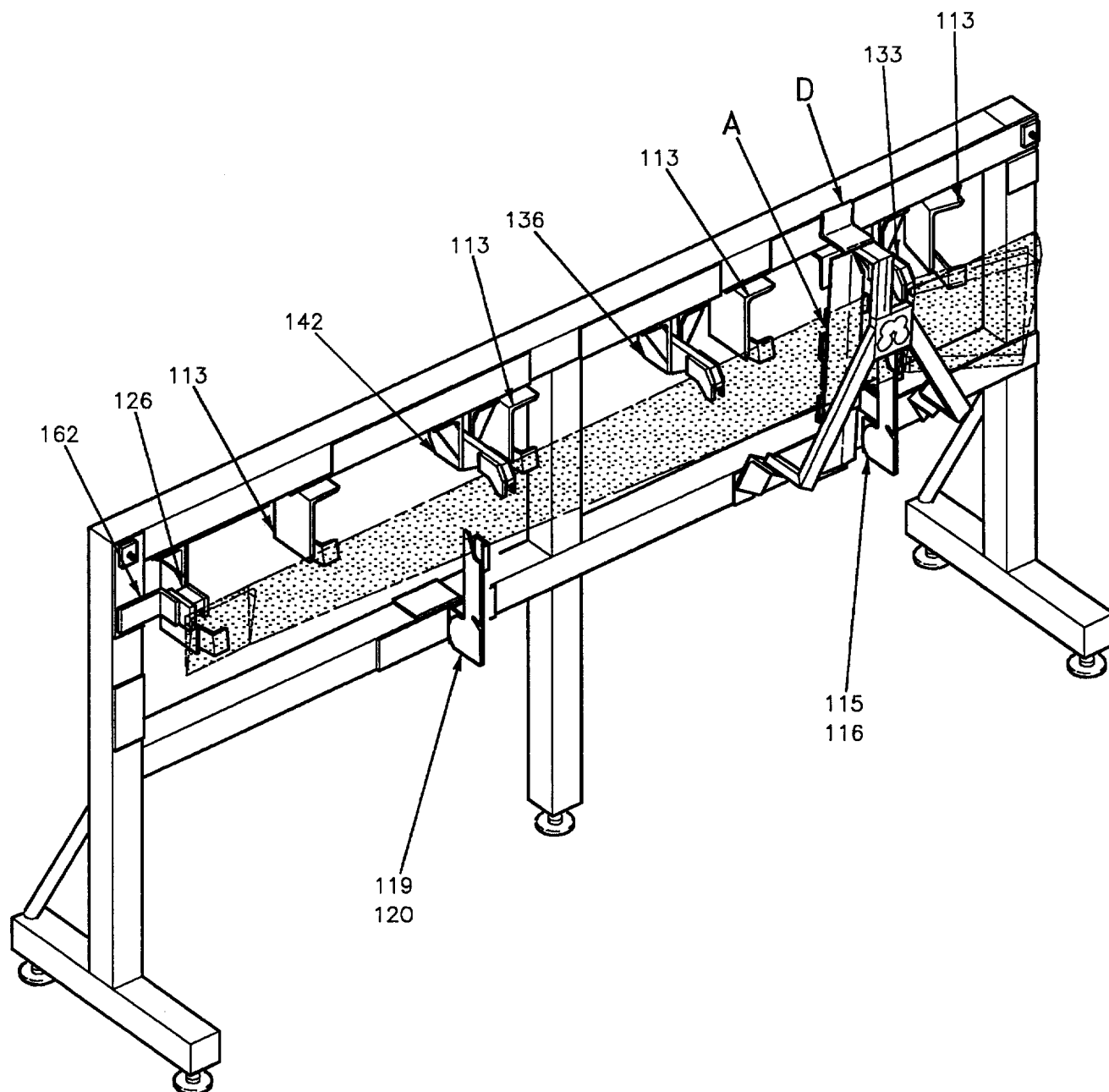


Figure 4. Inboard Drive Arm, 74A180728 (Sheet 1)

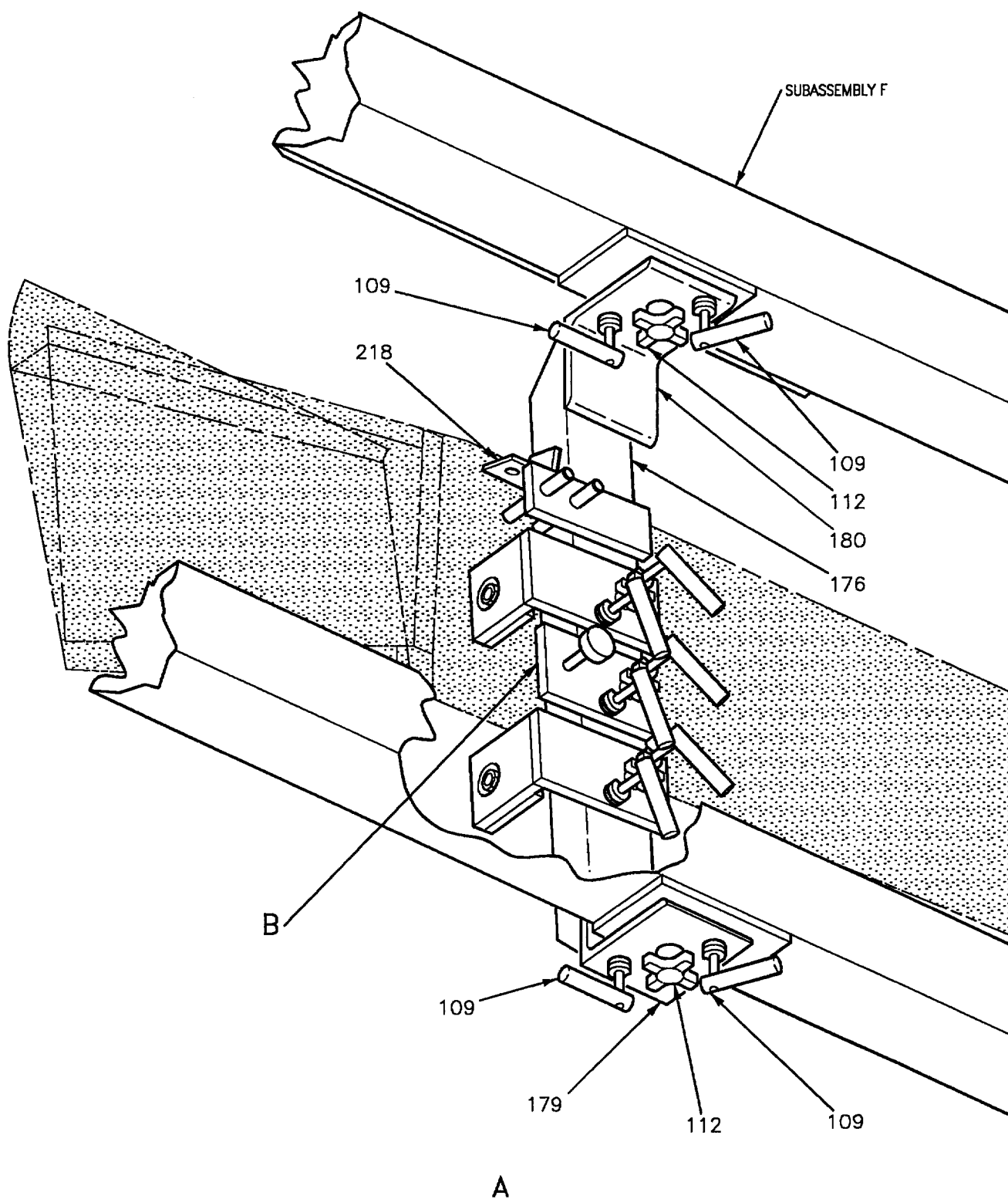


Figure 4. Inboard Drive Arm, 74A180728 (Sheet 2)

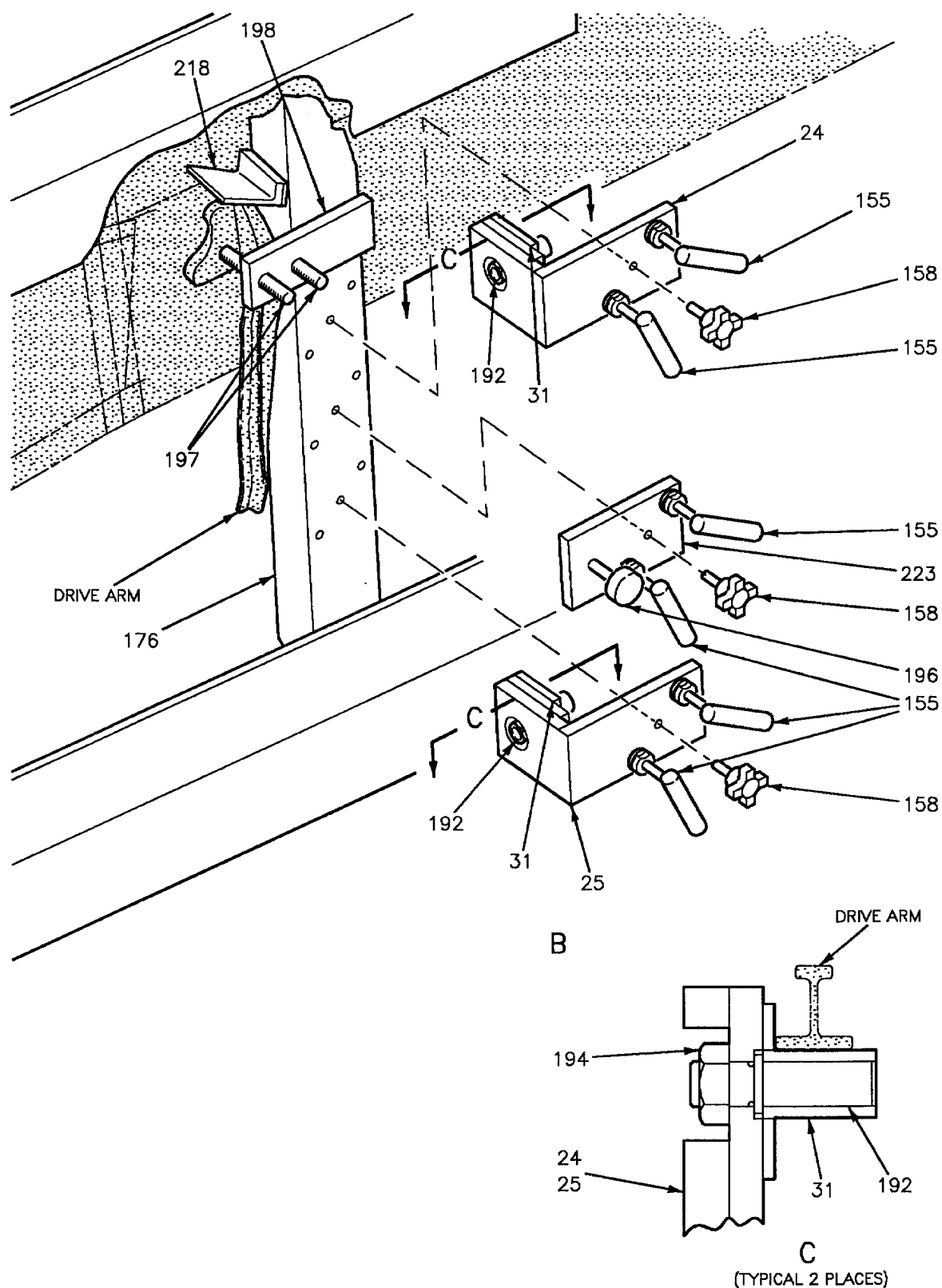


Figure 4. Inboard Drive Arm, 74A180728 (Sheet 3)

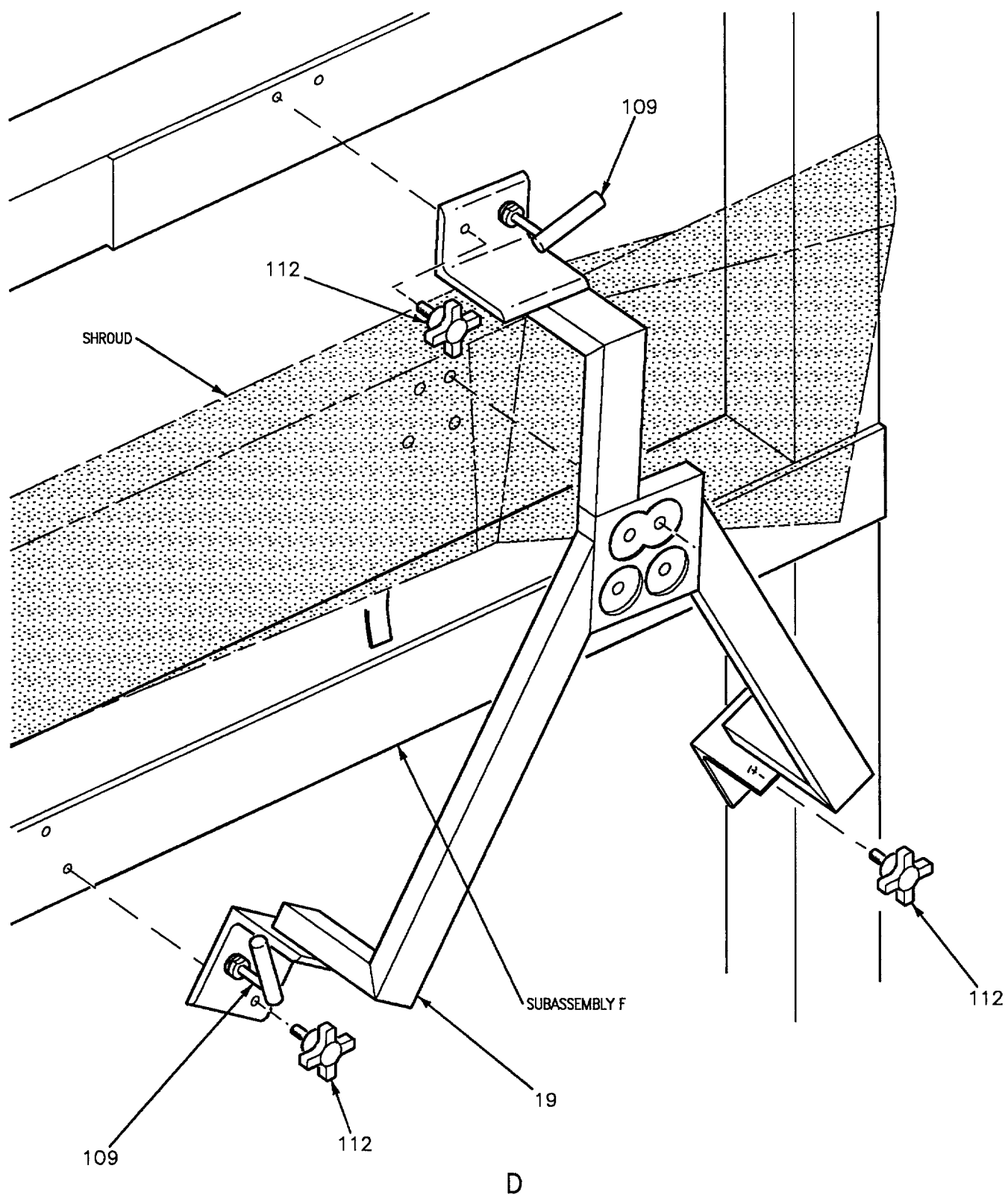


Figure 4. Inboard Drive Arm, 74A180728 (Sheet 4)

Detail No.	Name	Function
Subassembly F	Frame	Main support for all details.
19	Drill Guide	Guides drills and reamers for inboard drive arm replacement.
24, 25	Locator	Locates detail 192 to inspect and locate inboard drive arm.
31	Locator	Locates inboard drive arm at 2 places.
109	L-Pin	Locates and attaches details 19 and 176 to subassembly F.
112	Hand Knob	Secures details 19 and 176 to subassembly F.
113	Support	Supports various details.
115, 119	Locator	Locates upper mold line at trailing edge.
116, 120	Locator	Locates lower mold line at trailing edge.
126	Support	Supports mold line locator.
133	Locator	Locates details for installing shroud at XW56.800.
136	Locator	Locates details for installing shroud at XW84.490.
142	Locator	Locates details for installing shroud at XW117.290
155	L-Pin	Locates details 24, 25, and 223 to detail 176.
158	Hand Knob	Secures details 24, 25, and 223 to detail 176.
162	Locator	Locates details for installing shroud at XW153.090.
176	Support	Supports various details for locating inboard drive arm.
179, 180	Angle	Attaches detail 176 to subassembly F.
192	Locator Bolt	Installed in details 24 and 25 for aligning inboard drive arm.
194	Hex Nut	Secures detail 192 to details 24 and 25.
196	Thumb Screw	Secures inboard drive arm in place through detail 223.
197	Socket Head Screw	Secure inboard drive arm in place through detail 198.
198	Locator	Locates inboard drive arm.
218	Locator	Locates inboard drive arm.
223	Locator	Locates inboard drive arm with detail 196.

Figure 4. Inboard Drive Arm, 74A180728 (Sheet 5)

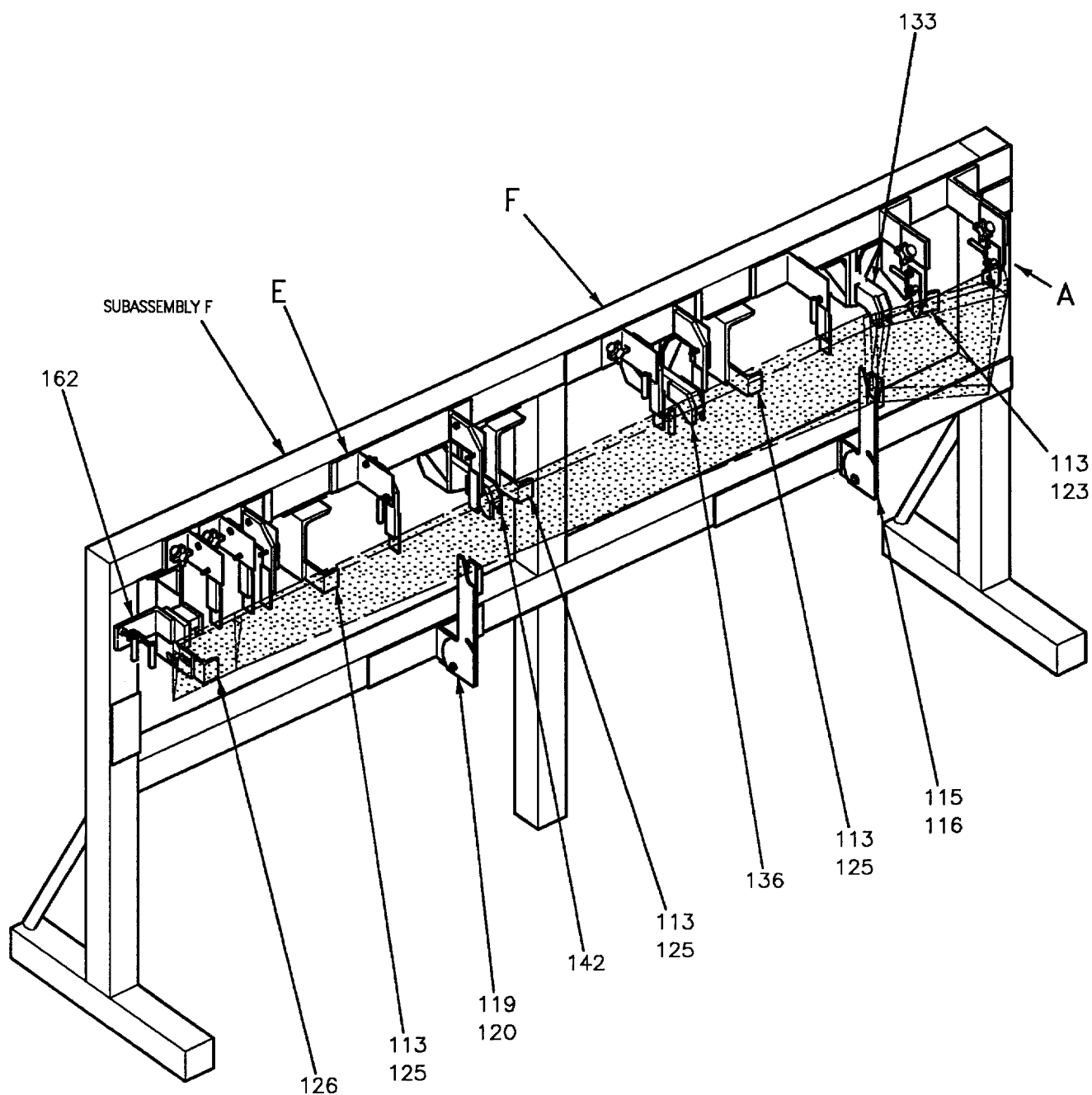


Figure 5. Installation of Seals (Sheet 1)

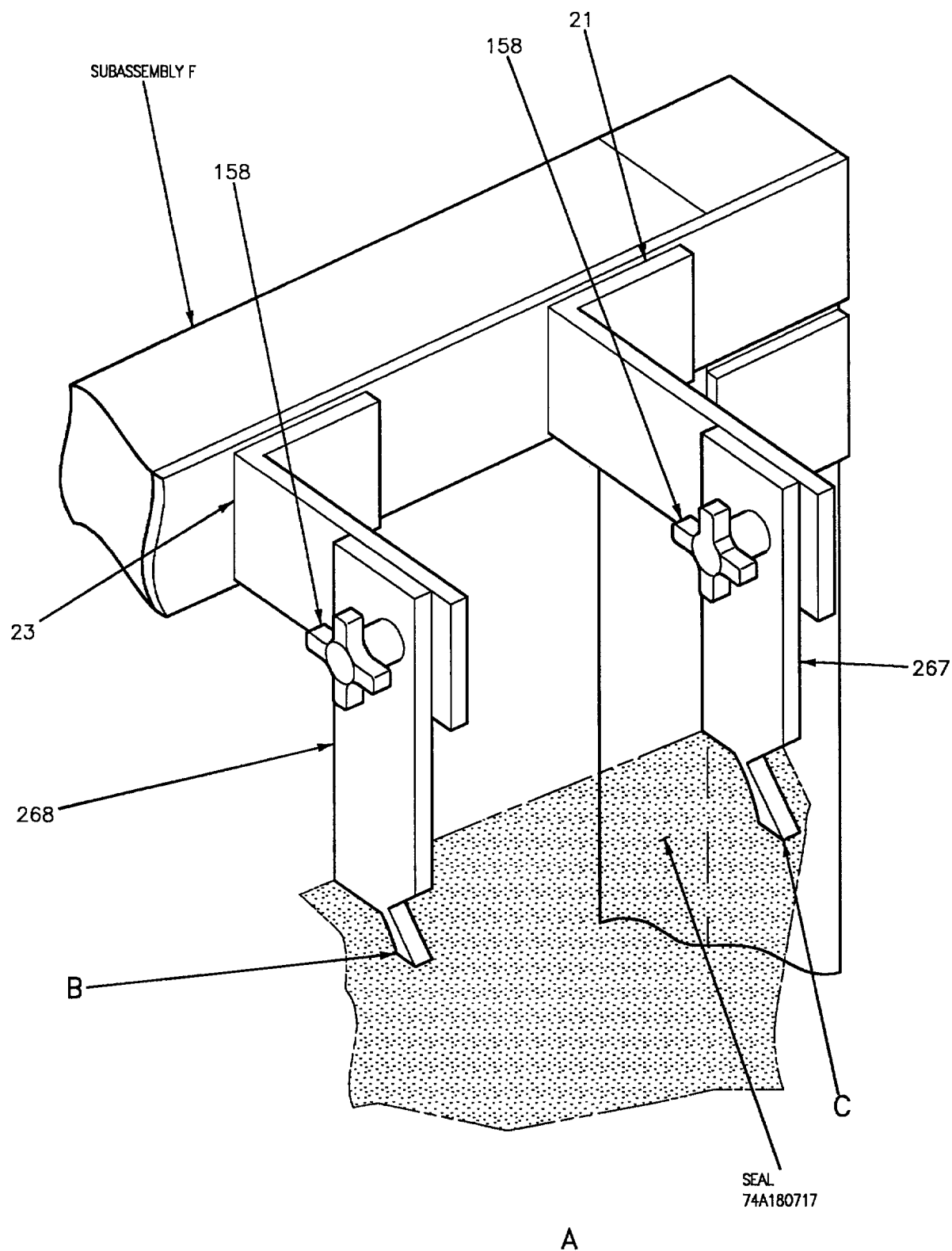


Figure 5. Installation of Seals (Sheet 2)

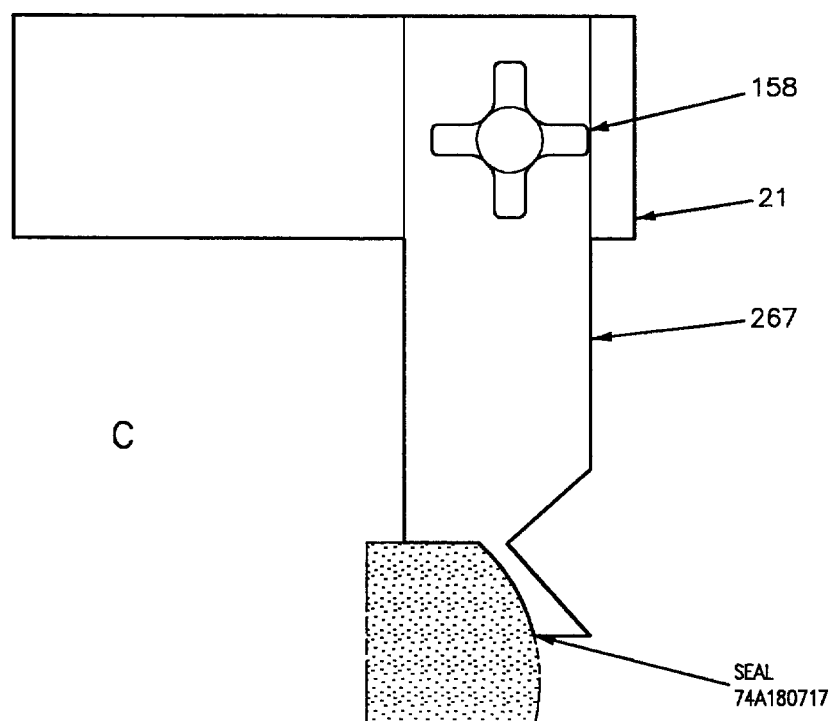
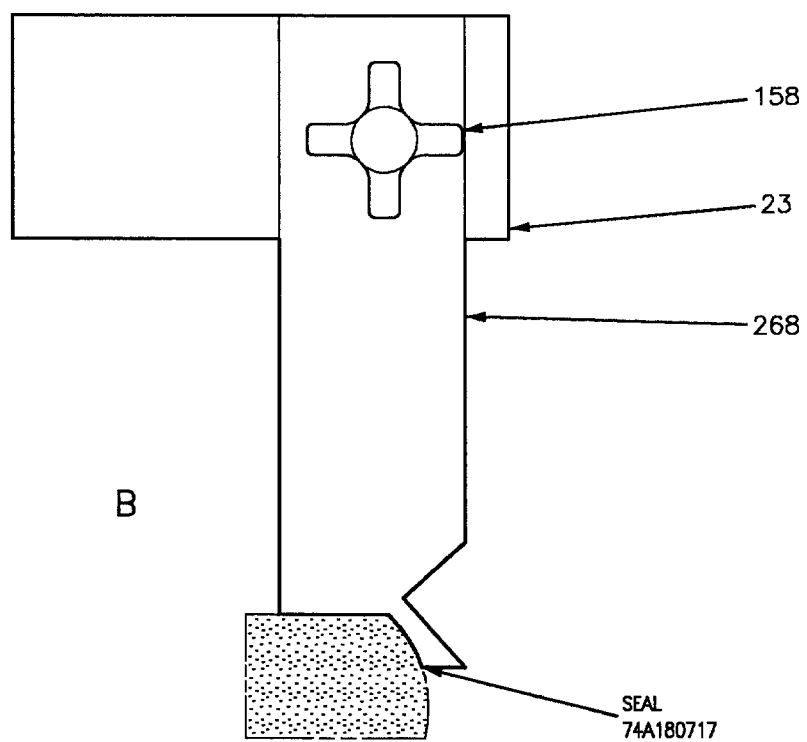


Figure 5. Installation of Seals (Sheet 3)

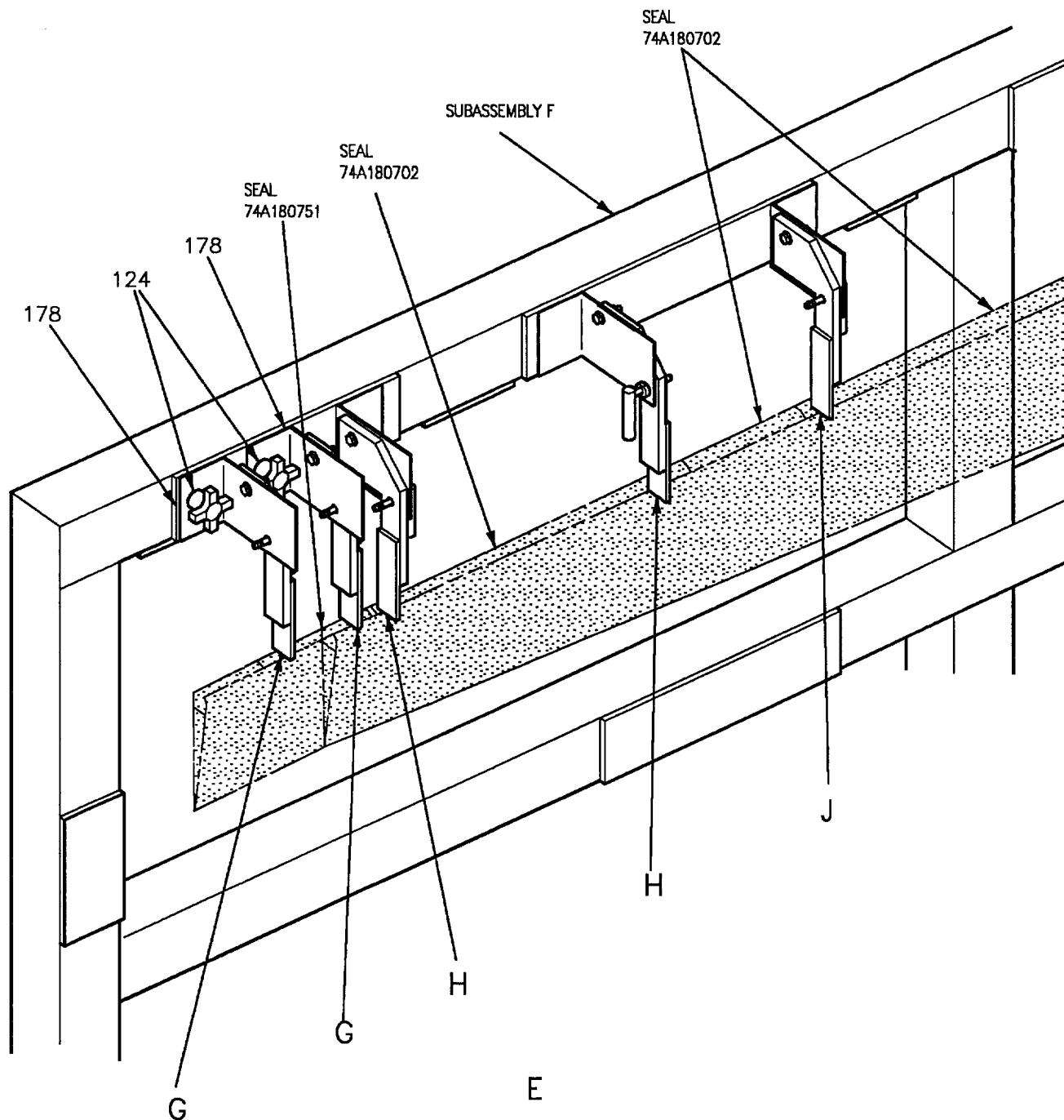


Figure 5. Installation of Seals (Sheet 4)

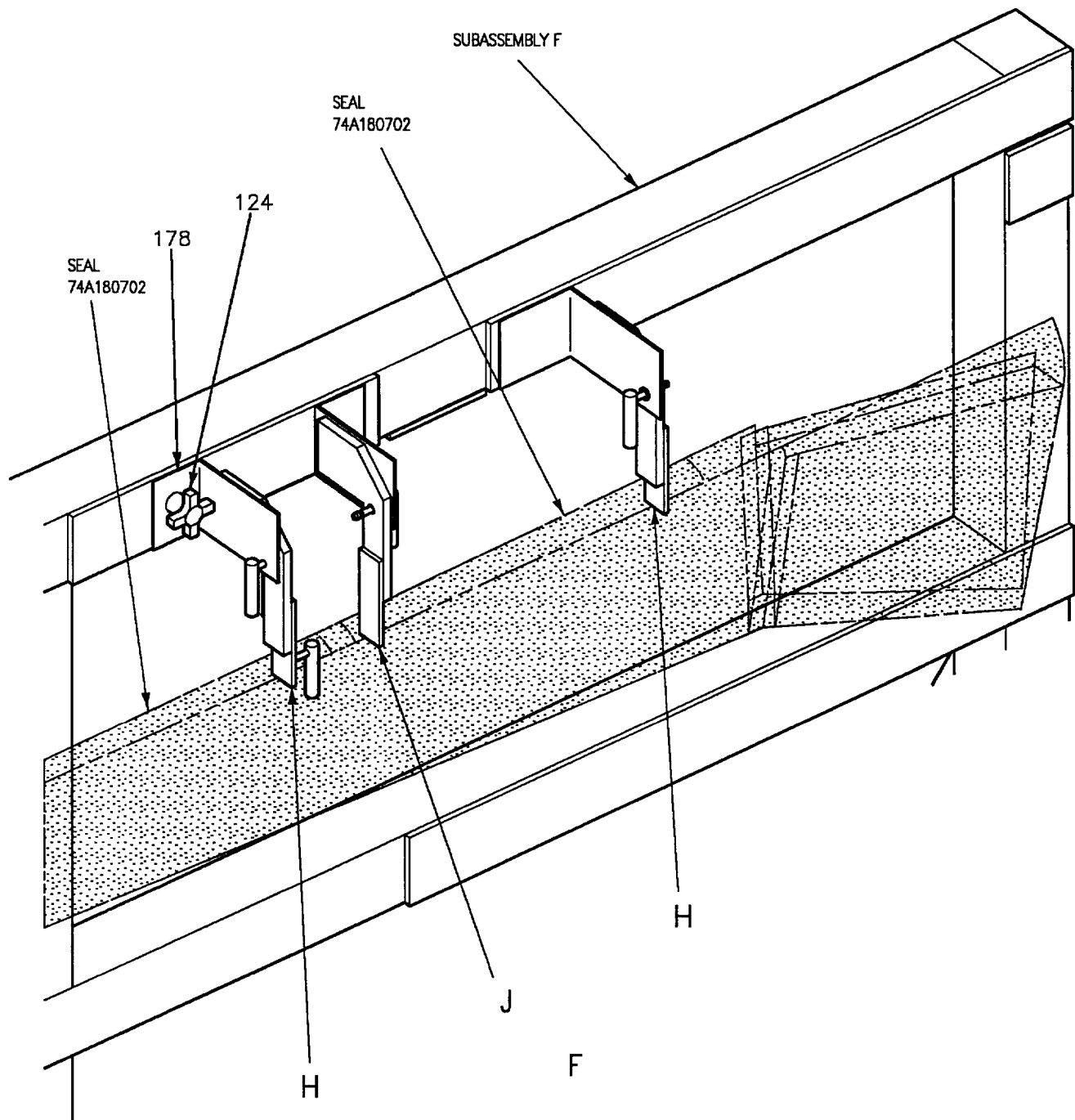


Figure 5. Installation of Seals (Sheet 5)

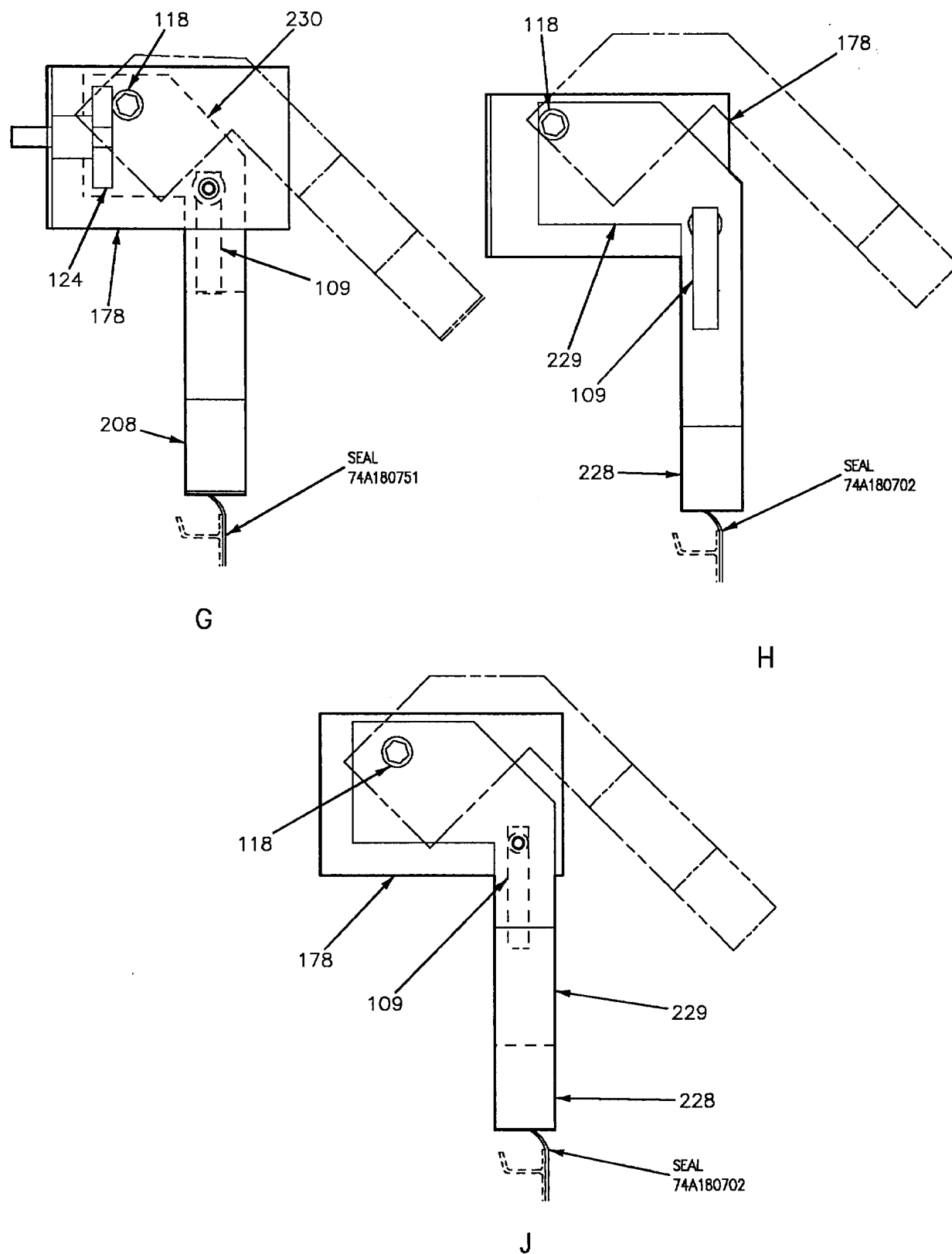


Figure 5. Installation of Seals (Sheet 6)

Detail No.	Name	Function
Subassembly F	Frame	Main support for all details.
21	Support	Supports details 185 and 189.
23	Support	Supports details 184 and 188.
109	L-Pin	Locates and attaches details 229 or 230 to details 178.
113	Support	Supports details 123 and 125.
115, 119	Locator	Locates upper mold line at trailing edge.
116, 120	Locator	Locates lower mold line at trailing edge.
118	Pivot Pin	Allows details to be rotated.
123, 125	Locator	Locates lower mold line.
126	Support	Supports detail 125.
133	Locator	Locates details for installing shroud at XW56.800.
136	Locator	Locates details for installing shroud at XW84.490.
142	Locator	Locates details for installing shroud at XW117.290.
158	Hand Knob	Secures various details.
162	Locator	Locates details for installing shroud at XW153.090.
178	Angle	Attaches details 229 and 230 to subassembly F.
208, 230	Locator	Locates 74A180751, seal.
224	L-Pin	Locates and attaches details 184 and 185.
227	Socket Head Shoulder Screw	Secures details 184 and 185.
228, 229	Locator	Locates 74A180702, seals.
231	Hand Knob	Secures details 184 and 185.
267, 268	Locator	Locates 74A180717, seal and clips.

Figure 5. Installation of Seals (Sheet 7)

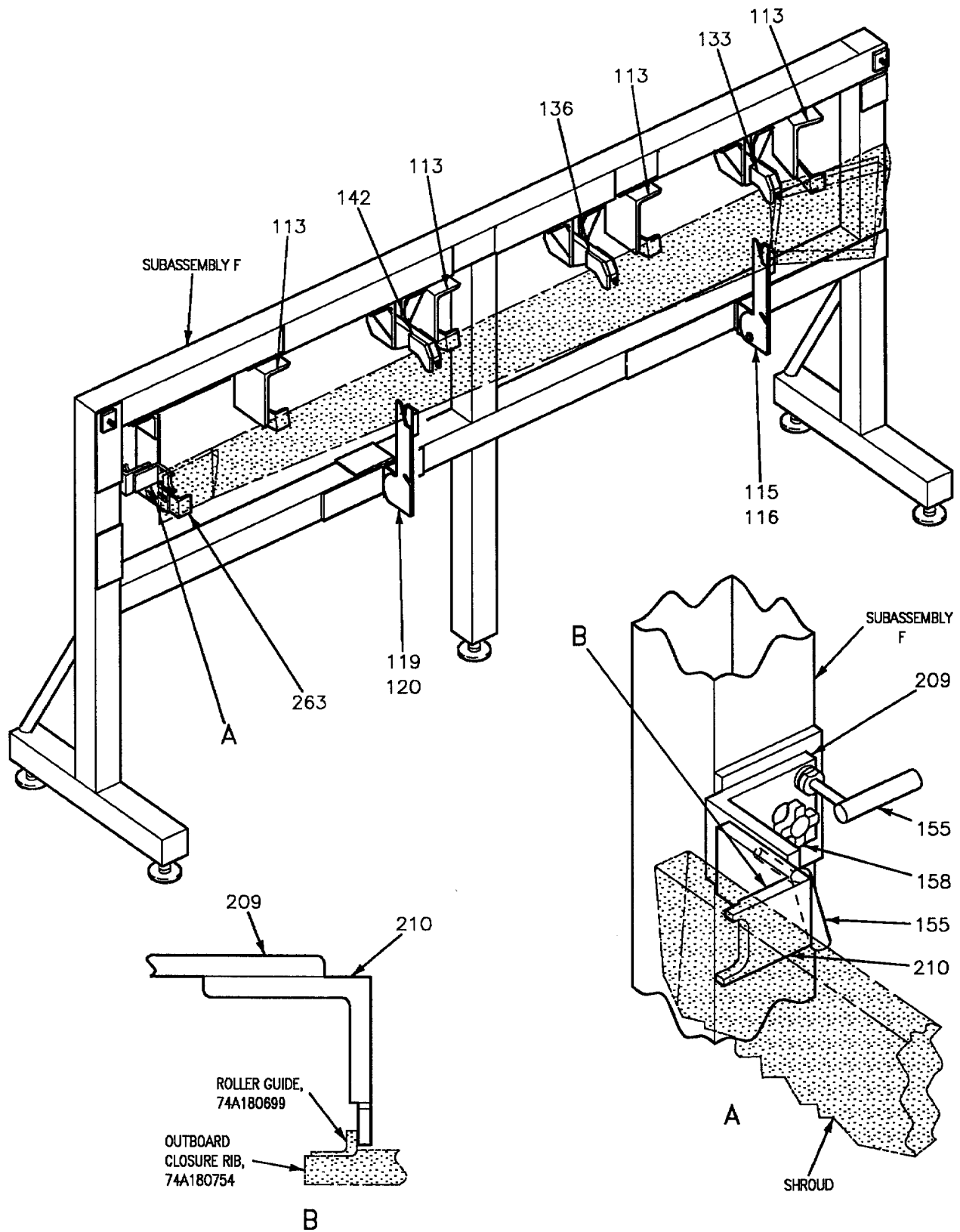


Figure 6. Roller Guide, 74A180699 (Sheet 1)

Detail No.	Name	Function
Subassembly F	Frame	Main support for all details.
113	Support	Supports various details.
115, 119	Locator	Locates upper mold line at trailing edge.
116, 120	Locator	Locates upper mold line at trailing edge.
126	Support	Supports mold line locator.
133	Locator	Locates details for installing shroud at XW56.800.
142	Locator	Locates details for installing shroud at XW117.290.
155	L-Pin	Locates and attaches details 209 and 210 to subassembly F.
158	Hand Knob	Locates and attaches details 209 and 210 to subassembly F.
162	Locator	Locates details for installing shroud at XW153.090.
209	Angle	Attaches detail 210 to assembly F.
210	Locator	Locates roller guide.
263	Locator	Locates lower mold line.

Figure 6. Roller Guide, 74A180699 (Sheet 2)

15. BUSHING REPLACEMENT AT XW56.800 IN-BOARD HINGE POINT. See figure 7.

Support Equipment Required

Part Number or Type Designation	Nomenclature
74D110174-1001	Bushing Removal, Installation, and Reaming Tool Set
RE274180103	Repair Kit, Flap Shroud
-	Drill Motor, With Ex-Thin, L-Type Offset Angle Head

Materials Required

Specification or Part Number	Nomenclature
ST4M130-04014	Bushing, Nominal Size
ST4M130-04027	Bushing, Nominal Size
ST4M130-04030	Bushing, First Oversize
ST4M130-04031	Bushing, Second Oversize
MS20470AD-4	Rivet, Solid
NAS1097U-4-3	Rivet, Solid

a. Remove 74A180717 seal. See view A for fastener location.

b. Install shroud into fixture, per Installation of Trailing Edge Flap Shroud Into Maintenance Fixture, this WP. Make sure shroud is firmly clamped in place.

c. If installed, remove L-pin (detail 38), view C.

d. Remove hand knob (detail 149)), L-pins (detail 148), and locators (detail 130, 131, 132), view B.

NOTE

If only one bushing is damaged, both bushings should be replaced allowing in-line reaming of new bushings.

e. Remove bushings from 74A180698 hinge point using 74D11074-1001 tool set (A1-F18AC-SRM-200, WP004 37).

NOTE

First oversize hole is 0.3281 inch diameter. Second oversize hole is 0.3440 inch diameter.

f. Inspect holes in 74A180698 hinge point for nominal dimension of 0.3129 +0.0005 -0.0000 inch diameter. If nominal dimension exists, do step g. If first oversize hole is required, do step h. If second oversize hole is required, do step i.

g. Nominal size hole:

NOTE

On 161353 thru 161519, use ST4M130- 04014 bushings. On 161520 and Up, use ST4M130-04027 bushings.

(1) Install new bushings into 74A180698 hinge point using 74D11074-1001 tool set (A1-F18AC-SRM-200, WP004 37).

(2) Inspect inside diameter of new bushings for nominal dimension of 0.255 +0.007 -0.000 inch diameter. If undersize, continue with steps (3) through (6).

(3) Attach locators (detail 130, 131, 132) to locator (detail 133) using L-pins (detail 148) and hand knob (detail 149), view B.

NOTE

PSMT 1551-48 reamer is part of RE274180103 repair kit.

(4) Attach PSMT 1551-48 reamer to L-type, offset angle head drill motor.

(5) Insert reamer into locator (detail 130) and in-line ream bushings to 0.255 +0.007 -0.000 inch diameter, view C.

(6) Remove reamer from locator (detail 130) and install L-pin (detail 38), view C.

h. First oversize hole:

(1) Attach locators (detail 131, 132, 242) to locator (detail 133) using L-pins (detail 148) and hand knob (detail 149), view B.

NOTE

SPTRE174180103TD and SPT2RE174180103TD reamers are part of RE274180103 repair kit.

(2) Attach SPTRE174180103TD reamer to L-type, offset angle head drill motor.

(3) Insert reamer into locator (detail 242) and in-line ream 74A180698 hinge point holes to 0.3260 inch diameter, view D.

(4) Attach SPT2RE174180103TD reamer to L-type, offset angle head drill motor.

(5) Insert reamer into locator (detail 242) and final ream 74A180698 hinge point holes to 0.3281 inch diameter, view D.

(6) Remove reamer, hand knob (detail 149), L-pins (detail 148), and locators (detail 131, 132, 242), view B.

(7) Install new ST4M130-04030 bushings into 74A180698 hinge point using 74D110174-1001 tool set (A1-F18AC-SRM-200, WP004 37).

(8) Inspect inside diameter of new bushings for nominal dimension of 0.255 +0.007 -0.000 inch diameter. If undersize, continue with steps (9) through (12).

(9) Attach locators (detail 130, 131, 132) to locator (detail 133) using L-pins (detail 148) and hand knob (detail 149), view B.

NOTE

PSMT 1551-48 reamer is part of RE274180103 repair kit.

(10) Attach PSMT 1551-48 reamer to L-type, offset angle head drill motor.

(11) Insert reamer into locator (detail 130) and in-line ream bushings to 0.255 +0.007 -0.000 inch diameter, view C.

(12) Remove reamer from locator (detail 130) and install L-pin (detail 38), view C.

i. Second oversize hole:

(1) Attach locators (detail 131, 132, 243) to locator (detail 133) using L-pins (detail 148) and hand knob (detail 149), view B.

NOTE

SPT3RE174180103TD and SPT4RE174180103TD reamers are part of RE274180103 repair kit.

(2) Attach SPT3RE174180103TD reamer to L-type, offset angle head drill motor.

(3) Insert reamer into locator (detail 243) and in-line ream 74A180698 hinge point holes to 0.3418 inch diameter, view D.

(4) Attach SPT4RE174180103TD reamer to L-type, offset angle head drill motor.

(5) Insert reamer into locator (detail 243) and final ream 74A180698 hinge point holes to 0.3440 inch diameter, view D.

(6) Remove reamer, hand knob (detail 149), L-pins (detail 148), and locators (detail 131, 132, 243), view B.

(7) Install new ST4M130-04031 bushings into 74A180698 hinge point using 74D110174-1001 tool set (A1-F18AC-SRM-200, WP004 37).

(8) Inspect inside diameter of new bushings for nominal dimension of 0.255 +0.007 -0.000 inch diameter. If undersize, continue with steps (9) through (12).

(9) Attach locators (detail 130, 131, 132) to locator (detail 133) using L-pins (detail 148) and hand knob (detail 149), view B.

NOTE

PSMT 1551-48 reamer is part of RE274180103 repair kit.

(10) Attach PSMT 1551-48 reamer to L-type, offset angle head drill motor.

(11) Insert reamer into locator (detail 130) and in-line ream bushings to 0.255 +0.007 -0.000 inch diameter, view C.

(12) Remove reamer from locator (detail 130) and install L-pin (detail 38), view C.

j. Reinstall 74A180717 seal. See view A for fastener identification.

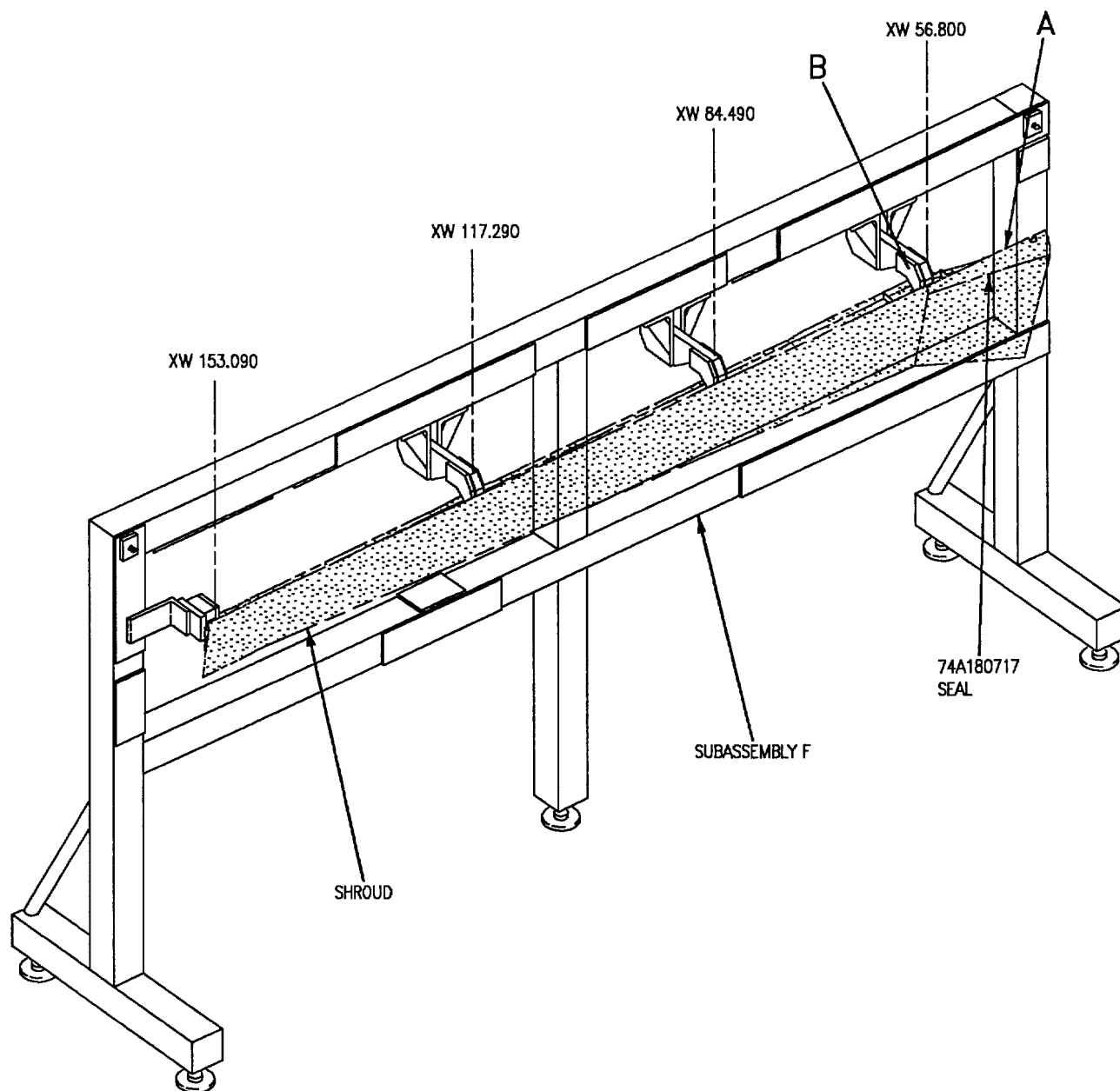


Figure 7. Bushing Replacement At XW56.800 Inboard Hinge Point (Sheet 1)

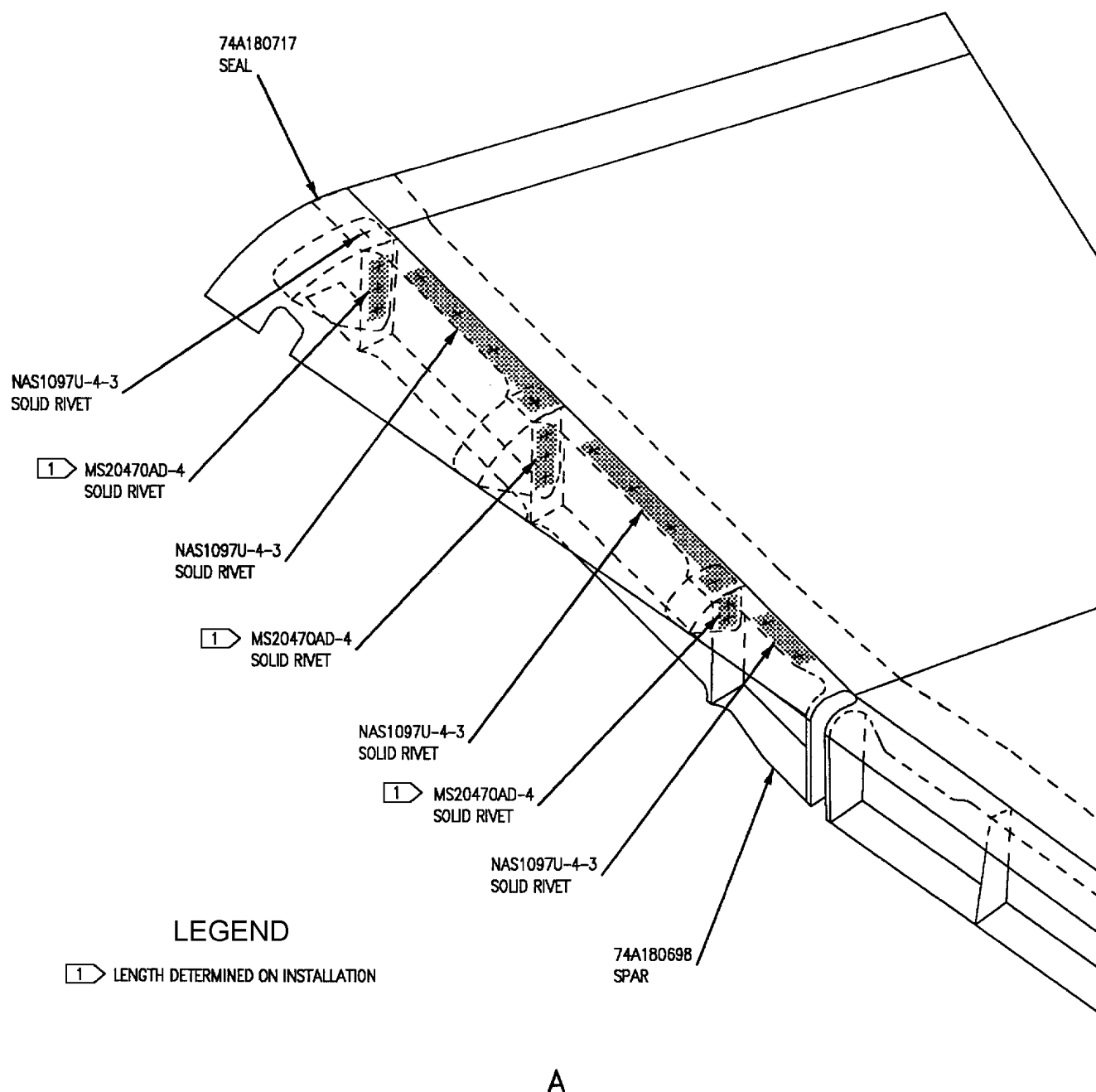
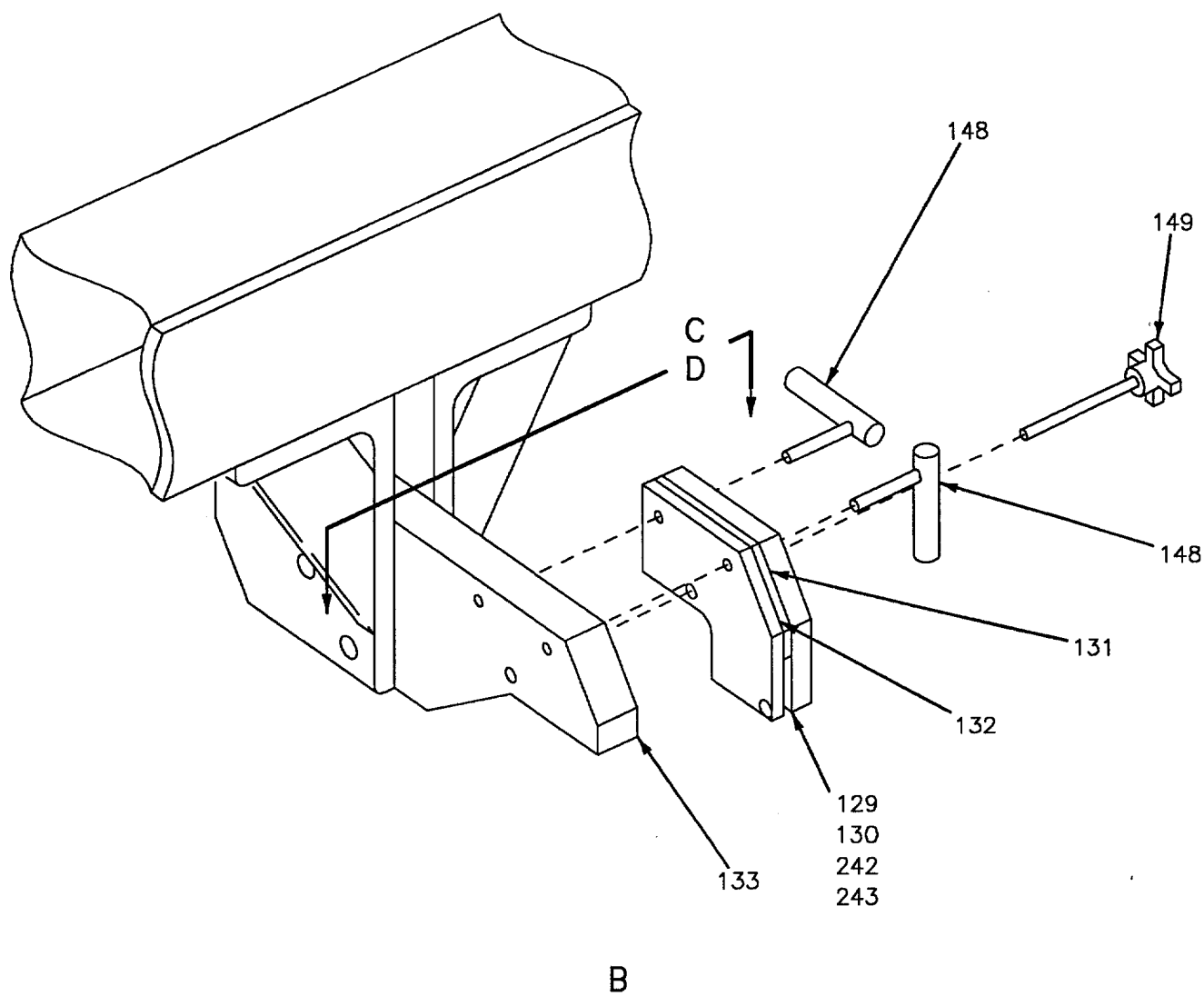


Figure 7. Bushing Replacement At XW56.800 Inboard Hinge Point (Sheet 2)



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Figure 7. Bushing Replacement At XW56.800 Inboard Hinge Point (Sheet 3)

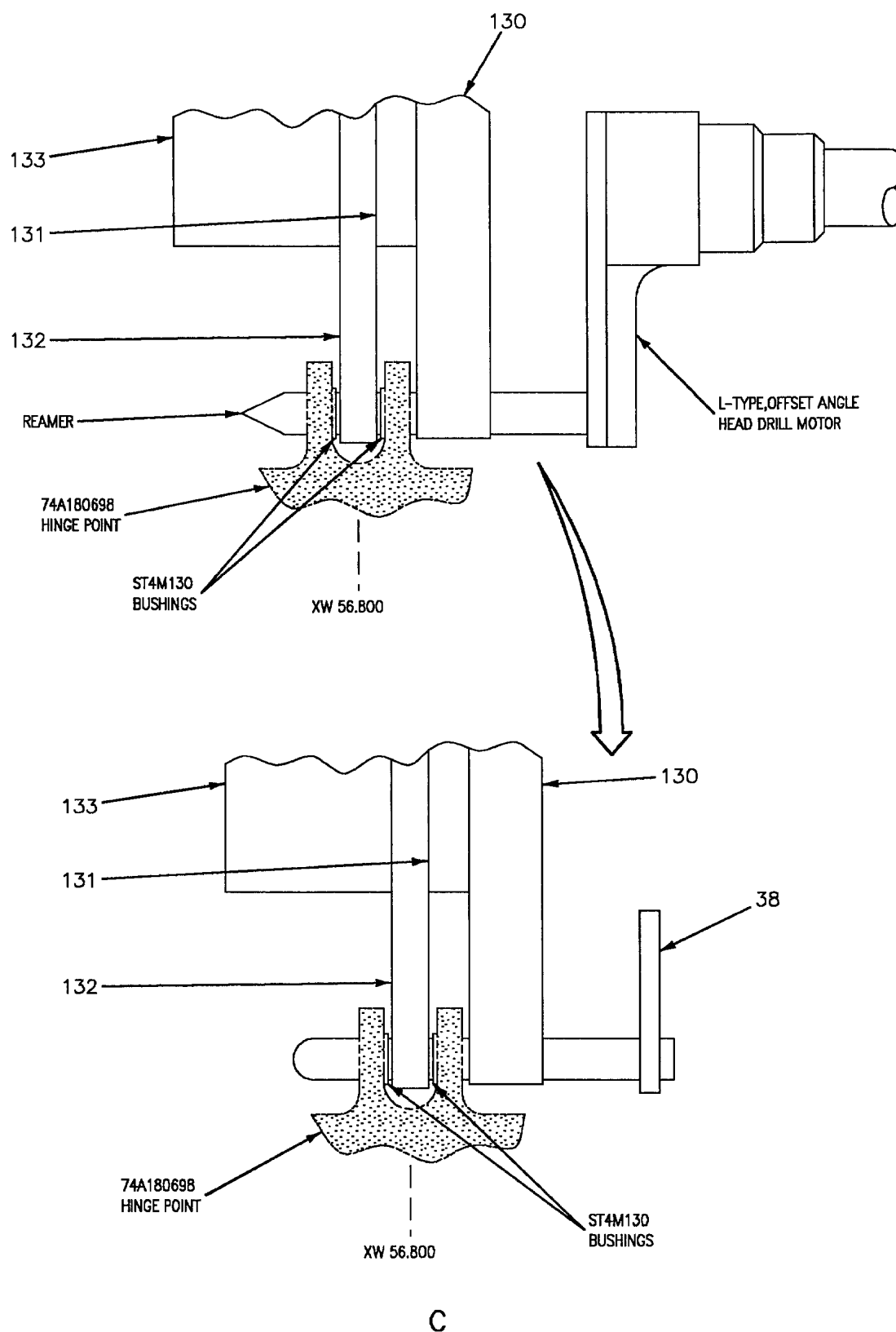


Figure 7. Bushing Replacement At XW56.800 Inboard Hinge Point (Sheet 4)

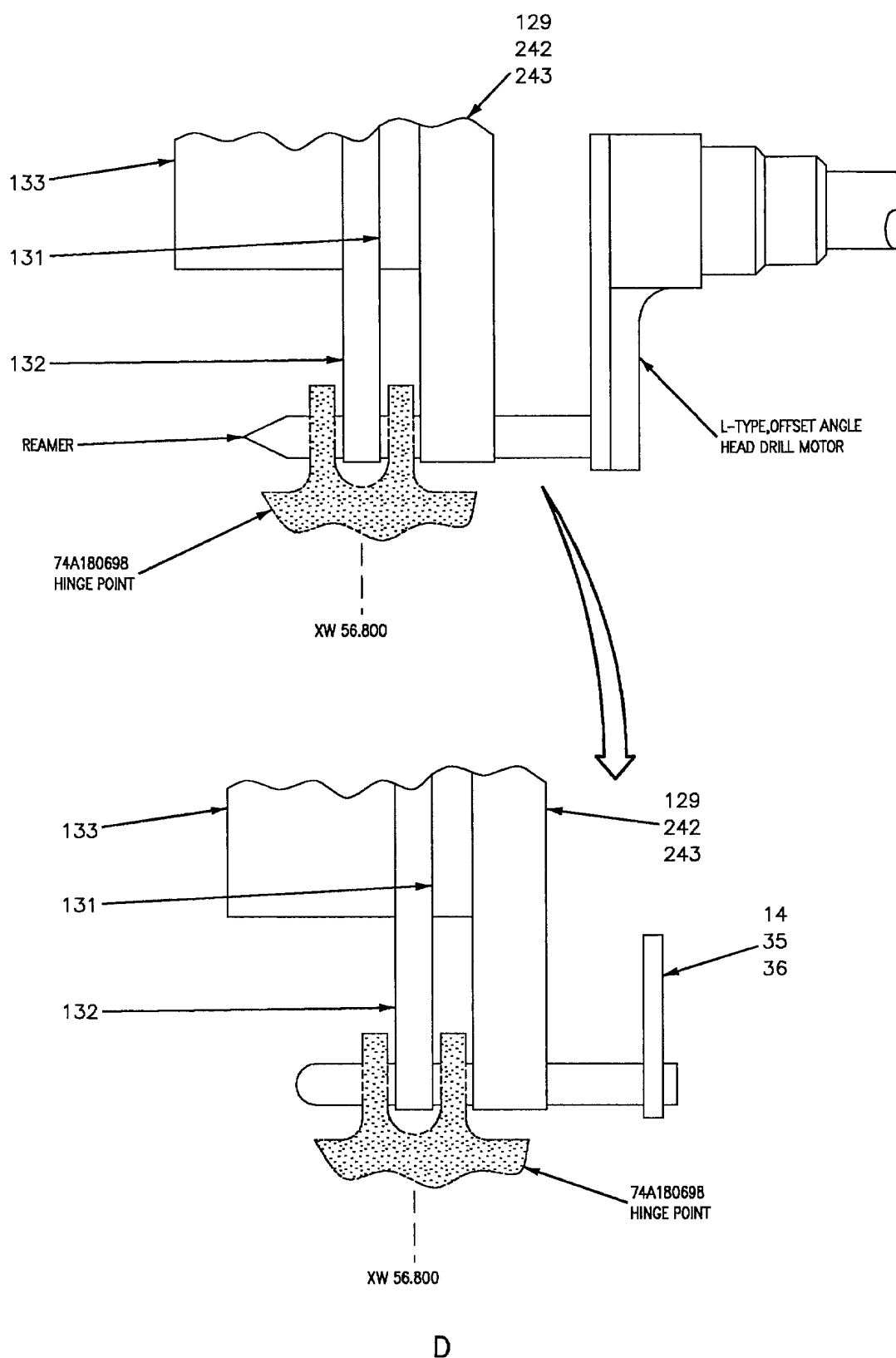


Figure 7. Bushing Replacement At XW56.800 Inboard Hinge Point (Sheet 5)

Detail No.	Name	Function
Subassembly F	Frame	Main support for all details.
14	L-Pin	Locates shroud in fixture when bushings are removed and nominal size holes exists in 74A180698 hinge point.
35	L-Pin	Locates shroud in fixture when bushings are removed and first over-size holes exists in 74A180698 hinge point.
36	L-Pin	Locates shroud in fixture when bushings are removed and second oversize holes exists in 74A180698 hinge point.
38	L-Pin	Locates shroud in fixture when bushings are installed in 74A180698 hinge point.
129	Locator	Locates reamer and L-pin (detail 14) for nominal size holes in 74A180698 hinge point.
130	Locator	Locates reamer and L-pin (detail 38) when bushings are installed in 74A180698 hinge point.
131, 132	Locator	Locates details for installing shroud.
133	Locator	Locates details for installing shroud at XW56.800.
148	L-Pin	Locates and attaches various details to details 130, 136, and 142.
149	Hand Knob	Secures details to locators.
242	Locator	Locates reamer and L-pin (detail 35) for first oversize holes in 74A180698 hinge point.
243	Locator	Locates reamer and L-pin (detail 36) for second oversize holes in 74A180698 hinge point.

Figure 7. Bushing Replacement At XW56.800 Inboard Hinge Point (Sheet 6)

16. BUSHING REPLACEMENT AT XW153.090 OUTBOARD HINGE POINT. See figure 8.

NOTE

If required, do bushing replacement at XW84.490 and/or XW117.290 hinge point, this WP, before doing these procedures.

Support Equipment Required

Part Number or Type Designation	Nomenclature
74D110174-1001	Bushing Removal, Installation, and Reaming Tool Set
RE274180103	Repair Kit, Flap Shroud
-	Drill Motor

Materials Required

Specification or Part Number	Nomenclature
4M43P4-009	Bushing, Nominal Size
4M106-04057	Bushing, First Oversize
4M106-04058	Bushing, Second Oversize

a. Install shroud into fixture, per Installation of Trailing Edge Flap Shroud Into Maintenance Fixture, this WP. Make sure shroud is firmly clamped in place.

b. If installed, remove pin (detail 270).

c. Remove hand knob (detail 158), L-pins (detail 155), and locators (detail 159, 161, 162), view A.

d. Remove bushing from 74A180754 hinge point using 74D110174-1001 tool set (A1-F18AC-SRM-200, WP004 37).

NOTE

First oversize hole is 0.3900 inch diameter.
Second oversize hole is 0.4066 inch diameter.

e. Inspect hole in 74A180754 hinge point for nominal dimension of 0.3750 +0.0005 -0.0000 inch diameter. If nominal dimension exists, do step f. If first oversize hole is required, do step g. If second oversize hole is required, do step h.

f. Nominal size hole:

(1) Install new 4M43P4-009 bushing into 74A180754 hinge point using 74D110174-1001 tool set (A1-F18AC-SRM-200, WP004 37).

(2) Inspect inside diameter of new bushing for nominal dimension of 0.255 +0.007 -0.000 inch diameter. If undersize, continue with steps (3) through (8).

(3) Attach locators (detail 159, 161, 162) to subassembly F using L-pins (detail 155) and hand knob (detail 158), view A.

(4) Insert drill bushing (detail 164) into locator (detail 161), view B.

NOTE

SPT9RE174180103 reamer is part of RE274180103 repair kit.

(5) Attach SPT9RE174180103 reamer to drill motor.

(6) Insert reamer into drill bushing (detail 164) and ream bushing to 0.255 +0.007 -0.000 inch diameter, view B.

(7) Remove reamer from drill bushing (detail 164) and insert locator bushing (detail 171) into locator (detail 159), view B.

(8) Install pin (detail 270) into drill bushing (detail 164), locator bushing (detail 171), and 74A180754 hinge point.

g. First oversize hole:

(1) Attach locators (detail 159, 161, 162) to subassembly F using L-pins (detail 155) and hand knob (detail 158), view A.

(2) Insert drill bushing (detail 261) into locator (detail 161), view C.

NOTE

SPT5RE174180103 and SPT6RE174180103 reamers are part of RE274180103 repair kit.

(3) Attach SPT5RE174180103 reamer to drill motor.

(4) Insert reamer into drill bushing (detail 261) and ream 74A180754 hinge point hole to 0.3860 inch diameter, view C.

(5) Attach SPT6RE174180103 reamer to drill motor.

(6) Insert reamer into drill bushing (detail 261) and final ream 74A180754 hinge point hole to 0.3900 inch diameter, view C.

(7) Remove reamer, drill bushing (detail 261), hand knob (detail 158), L-pins (detail 155), and locators (detail 159, 161, 162), view A.

(8) Install new 4M106-04057 bushing into 74A180754 hinge point using 74D110174-1001 tool set (A1-F18AC-SRM-200, WP004 37).

(9) Inspect inside diameter of new bushing for nominal dimension of 0.255 +0.007 -0.000 inch diameter. If undersize, continue with steps (10) through (15).

(10) Attach locators (detail 159, 161, 162) to subassembly F using L-pins (detail 155) and hand knob (detail 158), view A.

(11) Insert drill bushing (detail 164) into locator (detail 161), view B.

NOTE

SPT9RE174180103 reamer is part of RE274180103 repair kit.

(12) Attach SPT9RE174180103 reamer to drill motor.

(13) Insert reamer into drill bushing (detail 164) and ream bushings to 0.255 +0.007 -0.000 inch diameter, view B.

(14) Remove reamer from drill bushing (detail 164) and insert locator bushing (detail 171) into locator (detail 159), view B.

(15) Install pin (detail 270) into drill bushings (detail 164), locator bushing (detail 171), and 74A180754 hinge point, view B.

h. Second oversize hole:

(1) Attach locators (detail 159, 161, 162) to subassembly F using L-pins (detail 155) and hand knob (detail 158), view A.

(2) Insert drill bushing (detail 262) into locator (detail 161), view C.

NOTE

SPT7RE174180103 and SPT8RE174180103 reamers are part of RE274180103 repair kit.

(3) Attach SPT7RE174180103 reamer to drill motor.

(4) Insert reamer into drill bushing (detail 262) and ream 74A180754 hinge point hole to 0.4040 inch diameter, view C.

(5) Attach SPT8RE174180103 reamer to drill motor.

(6) Insert reamer into drill bushing (detail 262) and final ream 74A180754 hinge point hole to 0.4066 inch diameter, view C.

(7) Remove reamer, drill bushing (detail 262), hand knob (detail 158), L-pins (detail 155), and locators (detail 159, 161, 162), view A.

(8) Install new 4M106-04058 bushing into 74A180754 hinge point using 74D110174-1001 tool set (A1-F18AC-SRM-200, WP004 37).

(9) Inspect inside diameter of new bushing for nominal dimension of 0.255 +0.007 -0.000 inch diameter. If undersize, continue with steps (10) through (15).

(10) Attach locators (detail 159, 161, 162) to subassembly F using L-pins (detail 155) and hand knob (detail 158), view A.

(11) Insert drill bushing (detail 164) into locator (detail 161), view B.

NOTE

SPT9RE174180103 reamer is part of RE274180103 repair kit.

(12) Attach SPT9RE174180103 reamer to drill motor.

(13) Insert reamer into drill bushing (detail 164) and ream bushings to 0.255 +0.007 -0.000 inch diameter, view B.

(14) Remove reamer from drill bushing (detail 164) and insert locator bushing (detail 171) into locator (detail 159), view B.

(15) Install pin (detail 270) into drill bushings (detail 164), locator bushing (detail 171), and 74A180754 hinge point, view B.

17. BUSHING REPLACEMENT AT XW84.490 HINGE POINT. See figure 9.

Support Equipment Required

Part Number or Type Designation	Nomenclature
74D110174-1001	Bushing Removal, Installation, and Reaming Tool Set
RE274180103	Repair Kit, Flap Shroud
-	Drill Motor

Materials Required

Specification or Part Number	Nomenclature
ST4M130-04014	Bushing, Nominal Size
ST4M130-04030	Bushing, First Oversize
ST4M130-04031	Bushing, Second Oversize

a. Install shroud into fixture, per Installation of Trailing Edge Flap Shroud Into Maintenance Fixture, this WP. Make sure shroud is firmly clamped in place.

b. If installed, remove pin (detail 15), view A.

c. Remove hand knob (detail 150), L-pins (detail 148), and locators (detail 135, 137, 138), view A.

NOTE

If only one bushing is damaged, both bushings should be replaced allowing in-line reaming of new bushings.

d. Remove bushings from 74A180698 hinge point using 74D110174-1001 tool set (A1-F18AC-SRM-200, WP004 37).

NOTE

First oversize hole is 0.3281 inch diameter.
Second oversize hole is 0.3438 inch diameter.

e. Inspect holes in 74A180698 hinge point for nominal dimension of 0.3129 +0.0005 -0.0000 inch diameter. If nominal dimension exists, do step f. If first oversize hole is required, do step g. If second oversize hole is required, do step h.

f. Nominal size hole:

(1) Install new ST4M130-04014 bushings into 74A180698 hinge point using 74D110174-1001 tool set (A1-F18AC-SRM-200, WP004 37).

(2) Inspect inside diameter of new bushings for nominal dimension of 0.255 +0.007 -0.000 inch diameter. If undersize, continue with steps (3) through (7).

(3) Attach locators (detail 135, 137, 138) using L-pins (detail 148) and hand knob (detail 150), view A.

NOTE

PSMT 1551-48 reamer is part of RE274180103 repair kit.

(4) Attach PSMT 1551-48 reamer to drill motor.

(5) Insert reamer into locator (detail 137, 138) and ream bushings to 0.255 +0.007 -0.000 inch diameter, view B.

(6) Remove reamer from locator (detail 137, 138).

(7) Install pin (detail 15) into locators (detail 135, 137, 138) and 74A180698 hinge point, view B.

g. First oversize hole:

(1) Attach locators (detail 135, 151, 153) using L-pins (detail 148) and hand knob (detail 150), view A.

NOTE

TD251K2-2, TD251J2 extensions and SPTRE174180103TD and SPT2RE174180103TD reamers are part of RE274180103 repair kit.

(2) Insert TD251K2-2 and TD251J2 extensions through XW153.090 and XW117.290 hinge points, view C.

(3) Attach SPTRE174180103TD reamer to end of extension near XW84.490 hinge point, view C.

(4) Attach drill motor to end of extension, outboard of XW153.090 hinge point, view C.

(5) Insert reamer into locator (detail 151, 153) and in-line ream 74A180698 hinge point holes to 0.3260 inch diameter, view C.

(6) Attach SPT2RE174180103TD reamer to extension.

(7) Insert reamer into locator (detail 151, 153) and final ream 74A180698 hinge point holes to 0.3281 inch diameter, view C.

(8) Remove reamer, extensions, hand knob (detail 150), L-pins (detail 148), and locators (detail 135, 151, 152), view A.

(9) Install new ST4M130-04030 bushings into 74A180698 hinge point holes using 74D110174-1001 tool set (A1-F18AC-SRM-200, WP004 37).

(10) Inspect inside diameter of new bushings for nominal dimension of 0.255 +0.007 -0.000 inch diameter. If undersize, continue with steps (11) through (15).

(11) Attach locators (detail 135, 137, 138) using L-pins (detail 148) and hand knob (detail 150), view A.

NOTE

PSMT 1551-48 reamer is part of RE274180103 repair kit.

(12) Attach PSMT 1551-48 reamer to drill motor.

(13) Insert reamer into locator (detail 137, 138) and ream bushings to 0.255 +0.007 -0.000 inch diameter, view B.

(14) Remove reamer from locator (detail 137, 138).

(15) Install pin (detail 15) into locators (detail 135, 137, 138) and 74A180698 hinge point, view B.

h. Second oversize hole:

(1) Attach locators (detail 135, 152, 154) using L-pins (detail 148) and hand knob (detail 150), view A.

NOTE

TD251K2-2, TD251J2 extensions and SPT3RE174180103TD and SPT4RE174180103TD reamers are part of RE274180103 repair kit.

(2) Insert TD251K2-2 and TD251J2 extensions through XW153.090 and XW117.290 hinge points, view C.

(3) Attach SPT3RE174180103TD reamer to end of extension near XW84.490 hinge point, view C.

(4) Attach drill motor to end of extension, outboard of XW153.090 hinge point, view C.

(5) Insert reamer into locator (detail 152, 154) and in-line ream 74A180698 hinge point holes to 0.3389 inch diameter, view C.

(6) Attach SPT4RE174180103TD reamer to extension.

(7) Insert reamer into locator (detail 152, 154) and final ream 74A180698 hinge point holes to 0.3438 inch diameter, view C.

(8) Remove reamer, extensions, hand knob (detail 150), L-pins (detail 148), and locators (detail 135, 152, 154), view A.

(9) Install new ST4M130-04031 bushings into 74A180698 hinge point holes using 74D110174-1001 tool set (A1-F18AC-SRM-200, WP004 37).

(10) Inspect inside diameter of new bushings for nominal dimension of 0.255 +0.007 -0.000 inch diameter. If undersize, continue with steps (11) through (15).

(11) Attach locators (detail 135, 137, 138) using L-pins (detail 148) and hand knob (detail 150), view A.

NOTE

PSMT 1551-48 reamer is part of RE274180103 repair kit.

(12) Attach PSMT 1551-48 reamer to drill motor.

(13) Insert reamer into locator (detail 137, 138) and ream bushings to 0.255 +0.007 -0.000 inch diameter, view B.

(14) Remove reamer from locator (detail 137, 138).

(15) Install pin (detail 15) into locators (detail 135, 137, 138) and 74A180698 hinge point, view B.

18. BUSHING REPLACEMENT AT XW117.290 HINGE POINT. See figure 10.

Support Equipment Required

Part Number or Type Designation	Nomenclature
74D110174-1001	Bushing Removal, Installation, and Reaming Tool Set
RE274180103	Repair Kit, Flap Shroud
-	Drill Motor

Materials Required

Specification or Part Number	Nomenclature
ST4M130-04014	Bushing, Nominal Size
ST4M130-04030	Bushing, First Oversize
ST4M130-04031	Bushing, Second Oversize

a. Install shroud into fixture, per Installation of Trailing Edge Flap Shroud Into Maintenance Fixture, this WP. Make sure shroud is firmly clamped in place.

b. If installed, remove pin (detail 15), view A.

c. Remove hand knob (detail 150), L-pins (detail 148), and locators (detail 135, 143, 144), view A.

NOTE

If only one bushing is damaged, both bushings should be replaced allowing in-line reaming of new bushings.

d. Remove bushings from 74A180698 hinge point using 74D110174-1001 tool set (A1-F18AC-SRM-200, WP004 37).

NOTE

First oversize hole is 0.3281 inch diameter. Second oversize hole is 0.3438 inch diameter.

e. Inspect holes in 74A180698 hinge point for nominal dimension of 0.3129 +0.0005 -0.0000 inch diameter. If nominal dimension exists, do step f. If first oversize hole is required, do step g. If second oversize hole is required, do step h.

f. Nominal size hole:

(1) Install new ST4M130-04014 bushings into 74A180698 hinge point using 74D110174-1001 tool set (A1-F18AC-SRM-200, WP004 37).

(2) Inspect inside diameter of new bushings for nominal dimension of 0.255 +0.007 -0.000 inch diameter. If undersize, continue with steps (3) through (7).

(3) Attach locators (detail 135, 143, 144) using L-pins (detail 148) and hand knob (detail 150), view A.

NOTE

PSMT 1551-48 reamer is part of RE274180103 repair kit.

(4) Attach PSMT 1551-48 reamer to drill motor.

(5) Insert reamer into locator (detail 143, 144) and ream bushings to 0.255 +0.007 -0.000 inch diameter, view B.

(6) Remove reamer from locator (detail 143, 144).

(7) Install pin (detail 15) into locators (detail 135, 143, 144) and 74A180698 hinge point, view B.

g. First oversize hole:

(1) Attach locators (detail 135, 166, 236) using L-pins (detail 148) and hand knob (detail 150), view A.

NOTE

TD251K2-1, TD251J2 extensions and SPTRE174180103TD and SPT2RE174180103TD reamers are part of RE274180103 repair kit.

(2) Insert TD251K2-1 and TD251J2 extensions through XW153.090 hinge point, view C.

(3) Attach SPTRE174180103TD reamer to end of extension near XW117.290 hinge point, view C.

(4) Attach drill motor to end of extension, outboard of XW153.090 hinge point, view C.

(5) Insert reamer into locator (detail 166, 236) and in-line ream 74A180698 hinge point holes to 0.3260 inch diameter, view C.

(6) Attach SPT2RE174180103TD reamer to extension.

(7) Insert reamer into locator (detail 166, 236) and final ream 74A180698 hinge point holes to 0.3281 inch diameter, view C.

(8) Remove reamer, extensions, hand knob (detail 150), L-pins (detail 148), and locators (detail 135, 166, 236), view A.

(9) Install new ST4M130-04030 bushings into 74A180698 hinge point holes using 74D110174-1001 tool set (A1-F18AC-SRM-200, WP004 37).

(10) Inspect inside diameter of new bushings for nominal dimension of 0.255 +0.007 -0.000 inch diameter. If undersize, continue with steps (11) through (15).

(11) Attach locators (detail 135, 143, 144) using L-pins (detail 148) and hand knob (detail 150), view A.

NOTE

PSMT 1551-48 reamer is part of RE274180103 repair kit.

(12) Attach PSMT 1551-48 reamer to drill motor.

(13) Insert reamer into locator (detail 143, 144) and ream bushings to 0.255 +0.007 -0.000 inch diameter, view B.

(14) Remove reamer from locator (detail 143, 144).

(15) Install pin (detail 15) into locators (detail 135, 143, 144) and 74A180698 hinge point, view B.

h. Second oversize hole:

(1) Attach locators (detail 135, 168, 237) using L-pins (detail 148) and hand knob (detail 150), view A.

NOTE

TD251K2-1, TD251J2 extensions and SPT3RE174180103TD and SPT4RE174180103TD reamers are part of RE274180103 repair kit.

(2) Insert TD251K2-1 and TD251J2 extensions through XW153.090 hinge point, view C.

(3) Attach SPT3RE174180103TD reamer to end of extension near XW117.290 hinge point, view C.

(4) Attach drill motor to end of extension, outboard of XW153.090 hinge point, view C.

(5) Insert reamer into locator (detail 168, 237) and in-line ream 74A180698 hinge point holes to 0.3389 inch diameter, view C.

(6) Attach SPT4RE174180103TD reamer to extension.

(7) Insert reamer into locator (detail 168, 237) and final ream 74A180698 hinge point holes to 0.3438 inch diameter, view C.

(8) Remove reamer, extensions, hand knob (detail 150), L-pins (detail 148), and locators (detail 135, 168, 237), view A.

(9) Install new ST4M130-04031 bushings into 74A180698 hinge point holes using 74D110174-1001 tool set (A1-F18AC-SRM-200, WP004 37).

(10) Inspect inside diameter of new bushings for nominal dimension of 0.255 +0.007 -0.000 inch diameter. If undersize, continue with steps (11) through (15).

(11) Attach locators (detail 135, 143, 144) using L-pins (detail 148) and hand knob (detail 150), view A.

NOTE

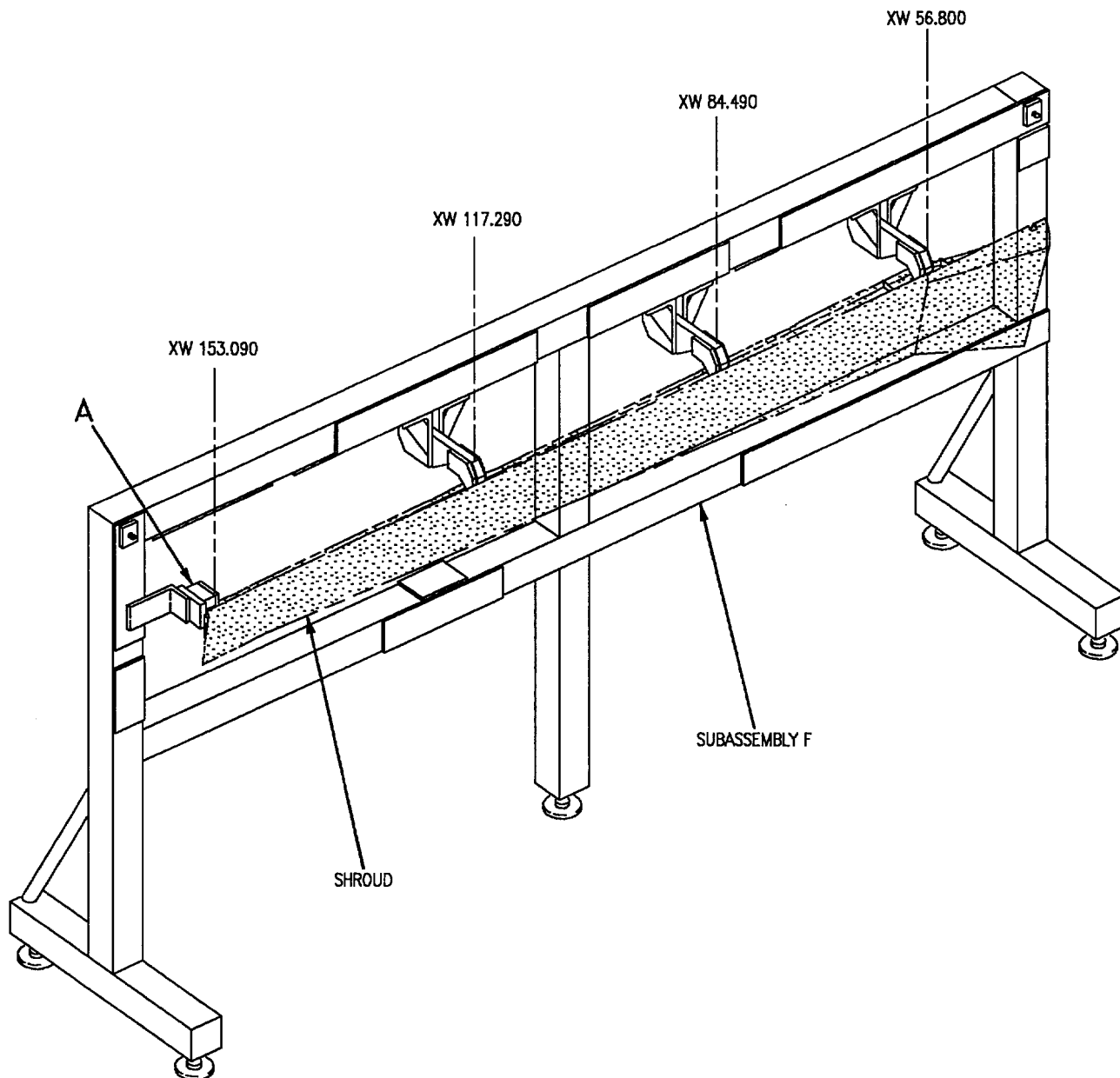
PSMT 1551-48 reamer is part of RE274180103 repair kit.

(12) Attach PSMT 1551-48 reamer to drill motor.

(13) Insert reamer into locator (detail 143, 144) and ream bushings to 0.255 +0.007 -0.000 inch diameter, view B.

(14) Remove reamer from locator (detail 143, 144).

(15) Install pin (detail 15) into locators (detail 135, 143, 144) and 74A180698 hinge point, view B.



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Figure 8. Bushing Replacement At XW153.090 Outboard Hinge Point (Sheet 1)

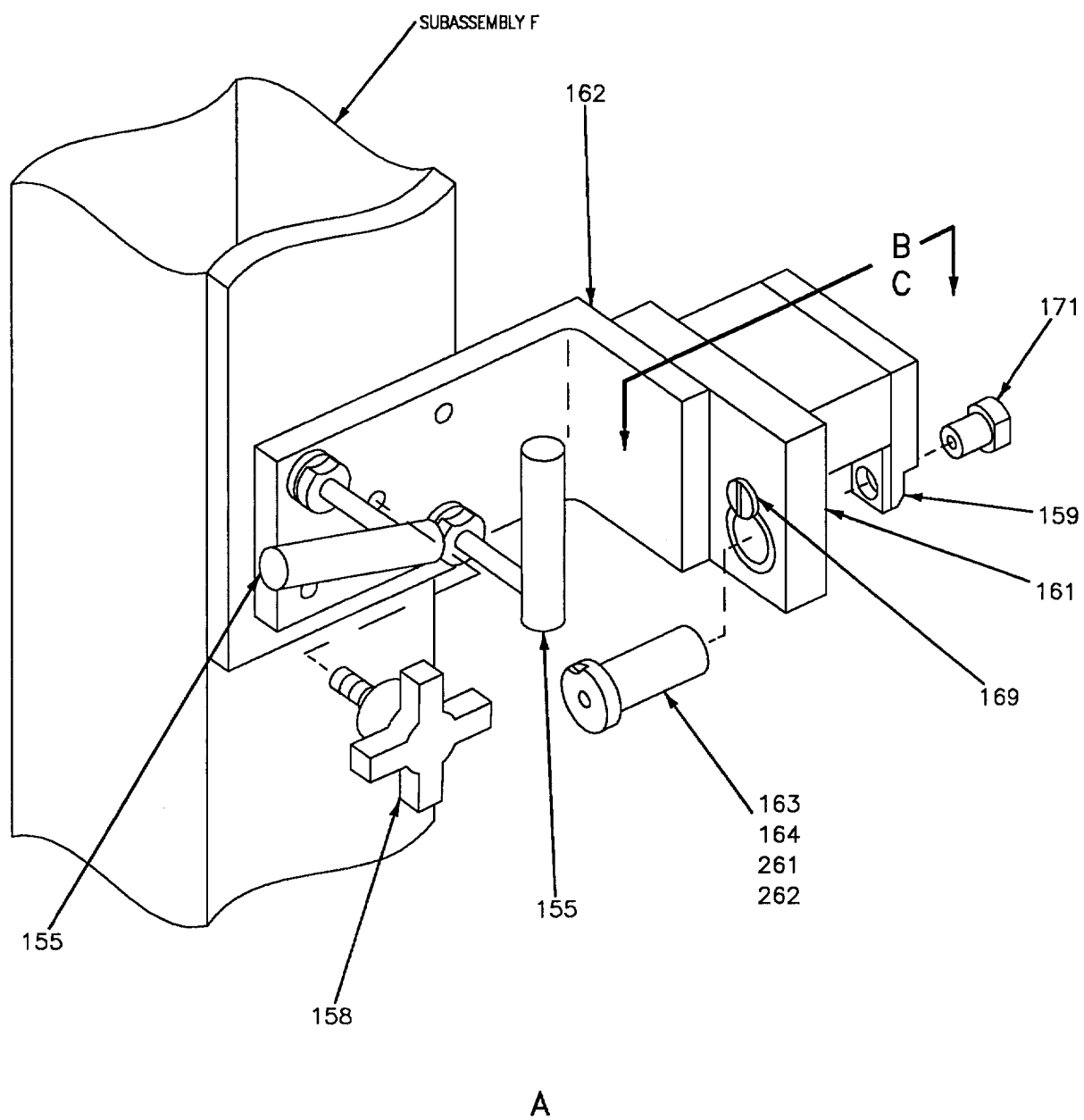
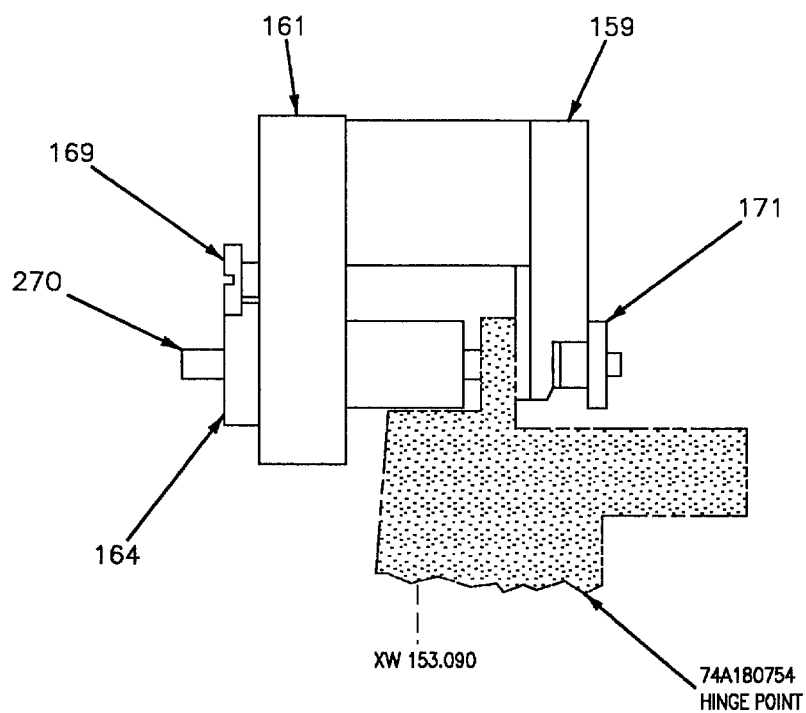
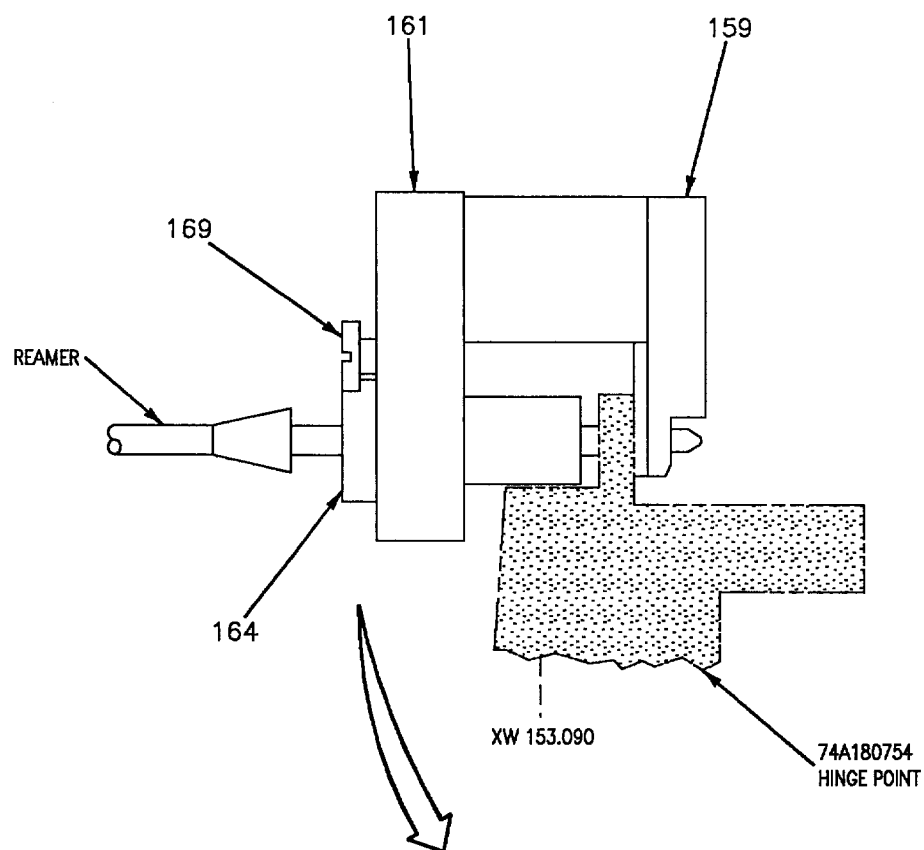


Figure 8. Bushing Replacement At XW153.090 Outboard Hinge Point (Sheet 2)

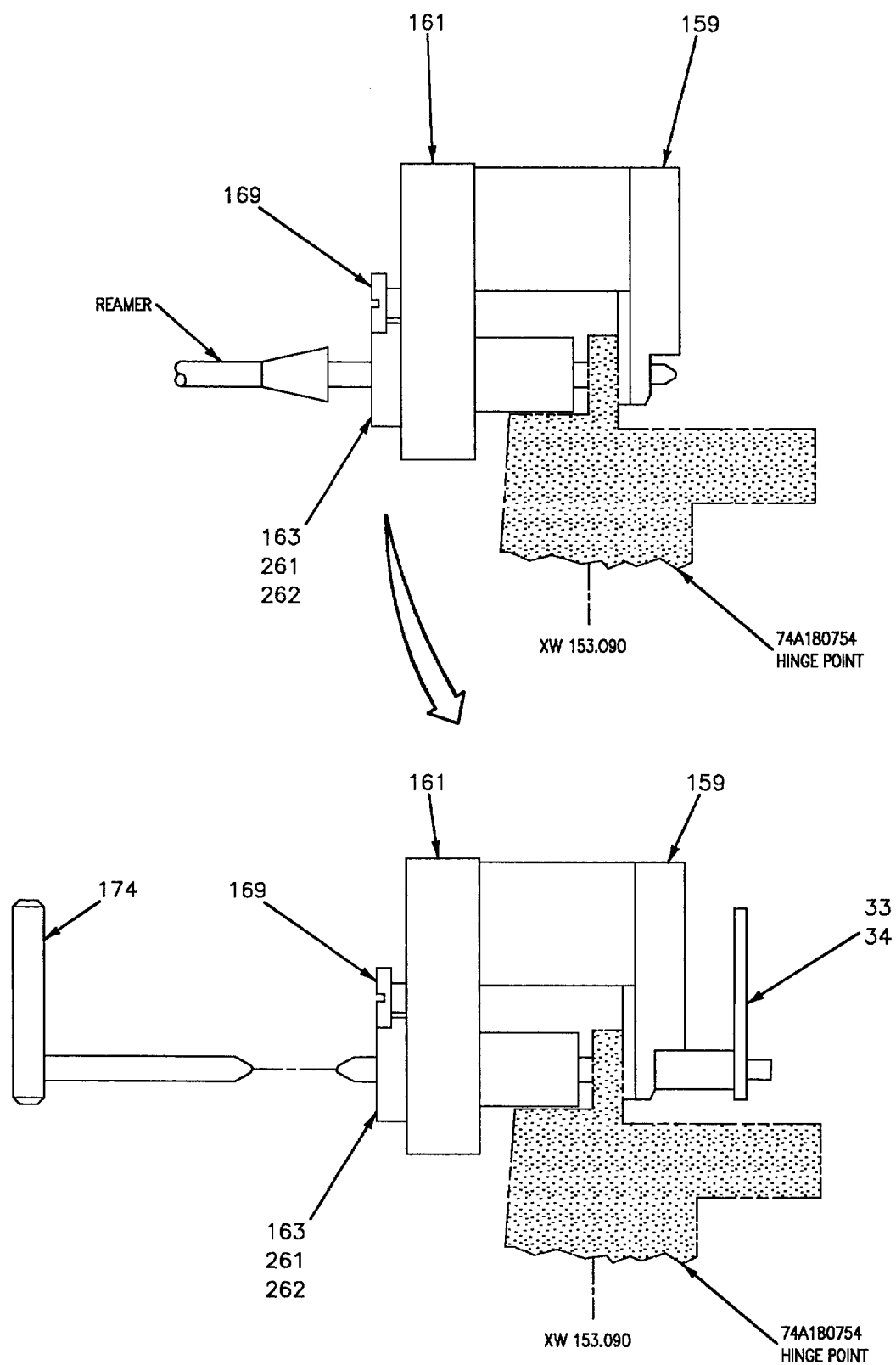
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B

07010803

Figure 8. Bushing Replacement At XW153.090 Outboard Hinge Point (Sheet 3)



C

Figure 8. Bushing Replacement At XW153.090 Outboard Hinge Point (Sheet 4)

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Detail No.	Name	Function
Subassembly F	Frame	Main support for all details.
33	Pin	Locates shroud in fixture when bushing is removed and first oversize hole exists in 74A180754 hinge point.
34	Pin	Locates shroud in fixture when bushing is removed and second oversize hole exists in 74A180754 hinge point.
155	L-Pin	Locates and attaches locator (detail 162) to subassembly F.
158	Hand Knob	Secures locator (detail 162) to subassembly F.
159	Locator	Locates details for installing and drilling shroud.
161	Locator	Locates details for installing and drilling shroud at XW153.090.
162	Locator	Locates details for installing and drilling shroud at XW153.090.
163	Drill Bushing	Guides reamer and pin (detail 174) for nominal size hole in 74A180754 hinge point.
164	Drill Bushing	Guides reamer and pin (detail 270) when bushing is installed in 74A180754 hinge point.
169	Lock Screw	Secures drill bushings (detail 163, 164, 261, 262) into locator (detail 161).
171	Locator Bushing	Locates pin (detail 270) when bushing is installed in 74A180754 hinge point.
174	Pin	Locates shroud in fixture when bushing is removed and nominal size hole exists in 74A180754 hinge point.
261	Drill Bushing	Guides reamer and pin (detail 33) for first oversize hole in 74A180754 hinge point.
262	Drill Bushing	Guides reamer and pin (detail 34) for second oversize hole in 74A180754 hinge point.
270	Pin	Locates shroud in fixture when bushing is installed in 74A180754 hinge point.

Figure 8. Bushing Replacement At XW 153.090 Outboard Hinge Point (Sheet 5)

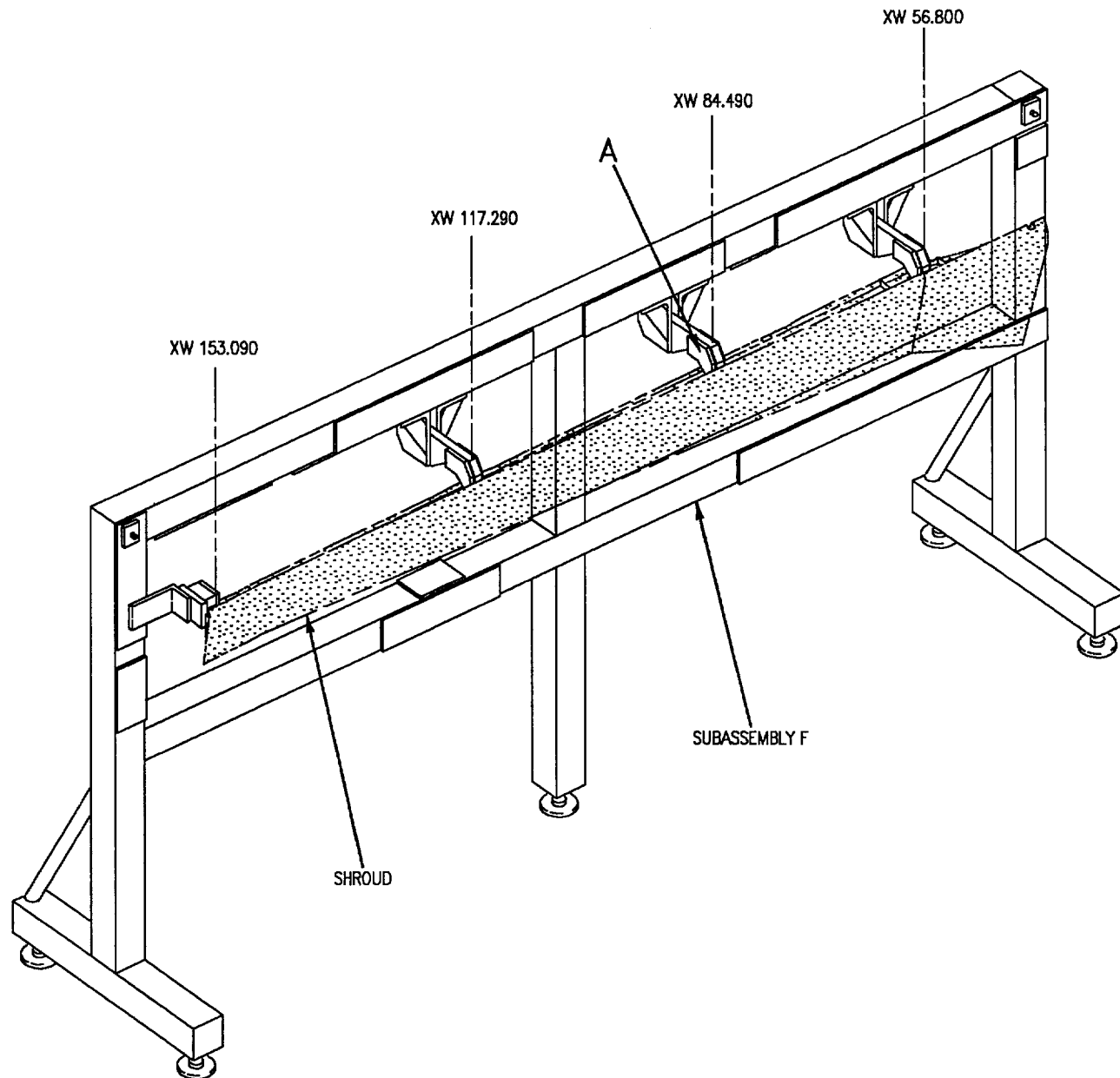


Figure 9. Bushing Replacement At XW84.490 Hinge Point (Sheet 1)

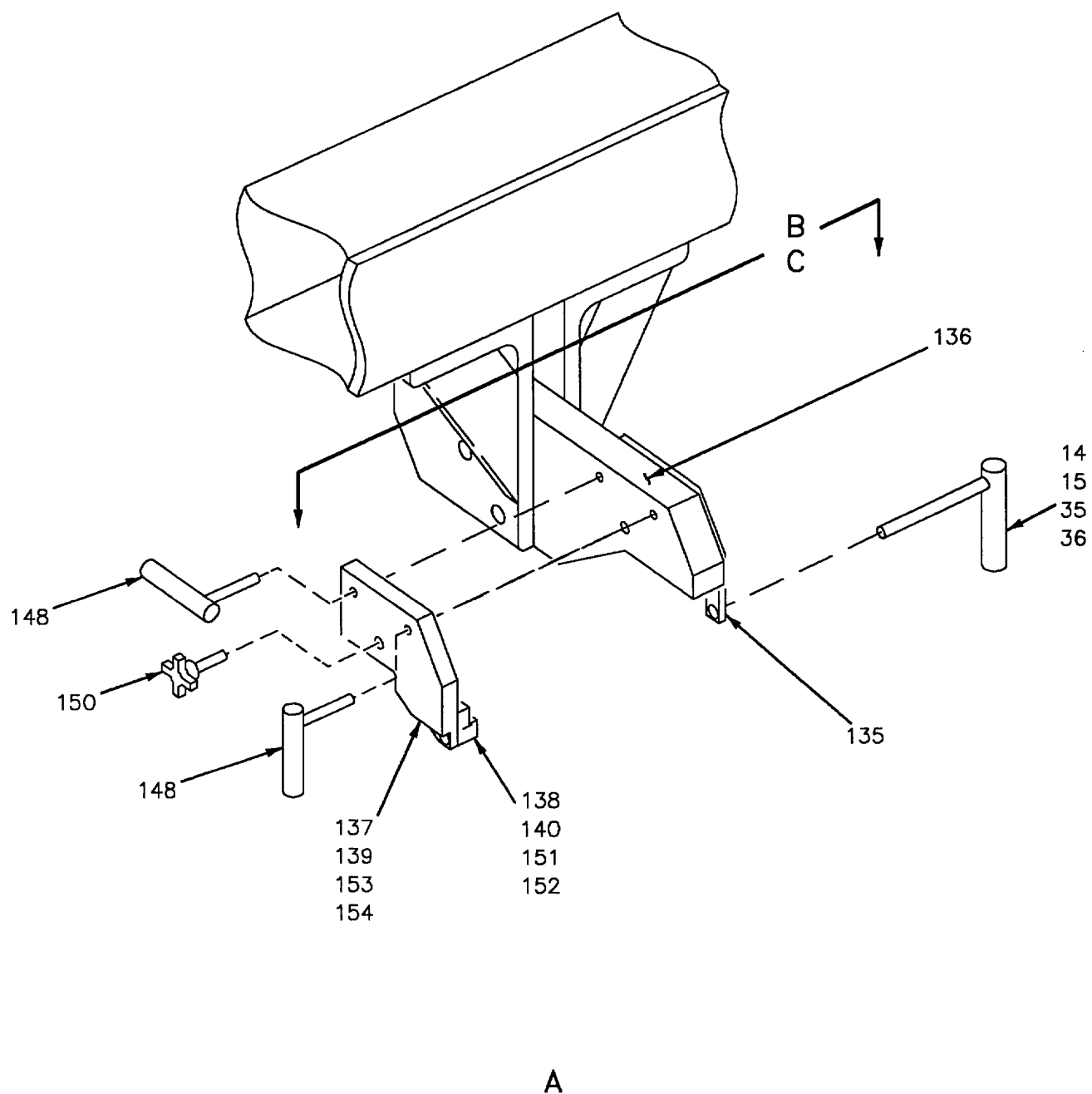
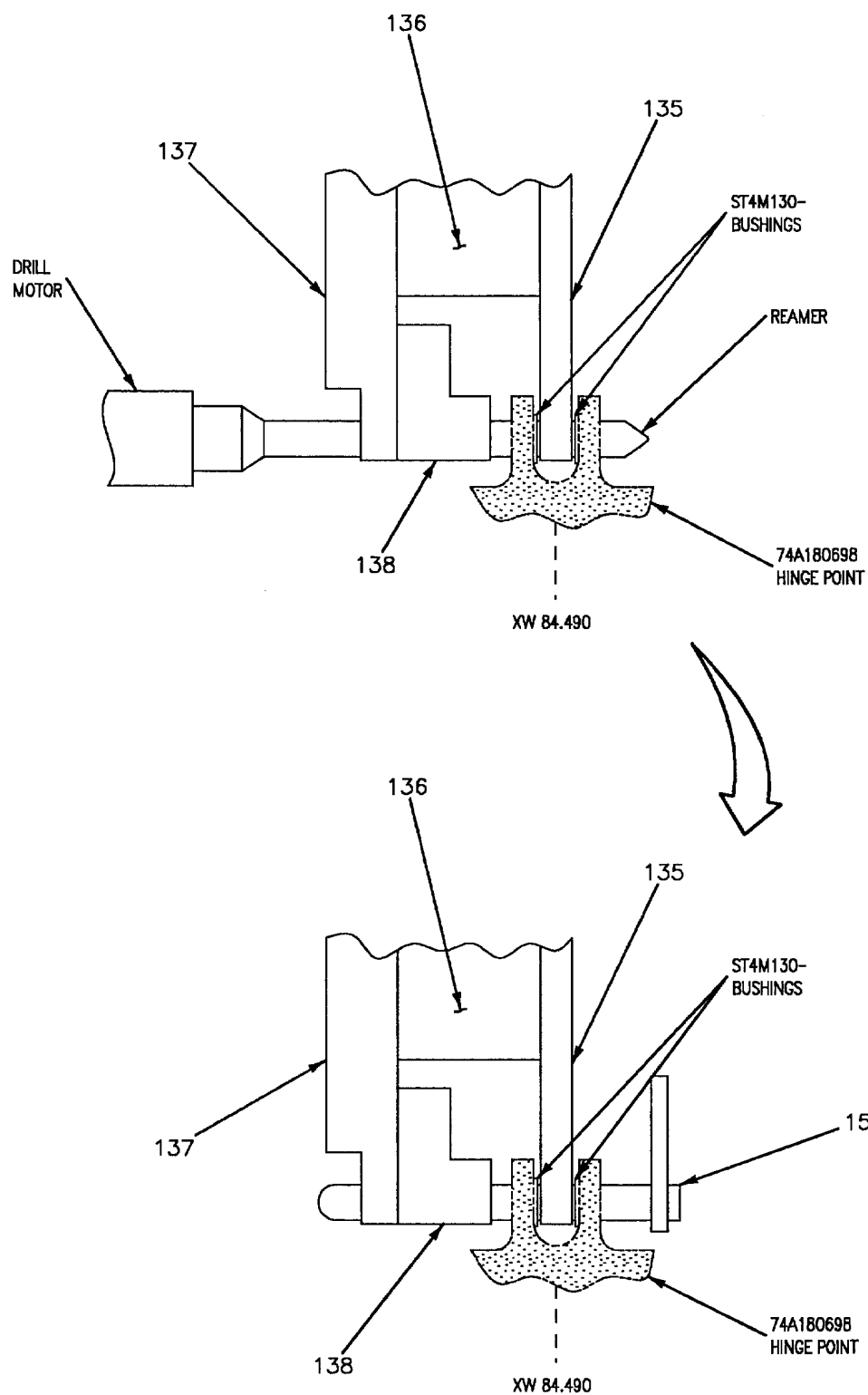
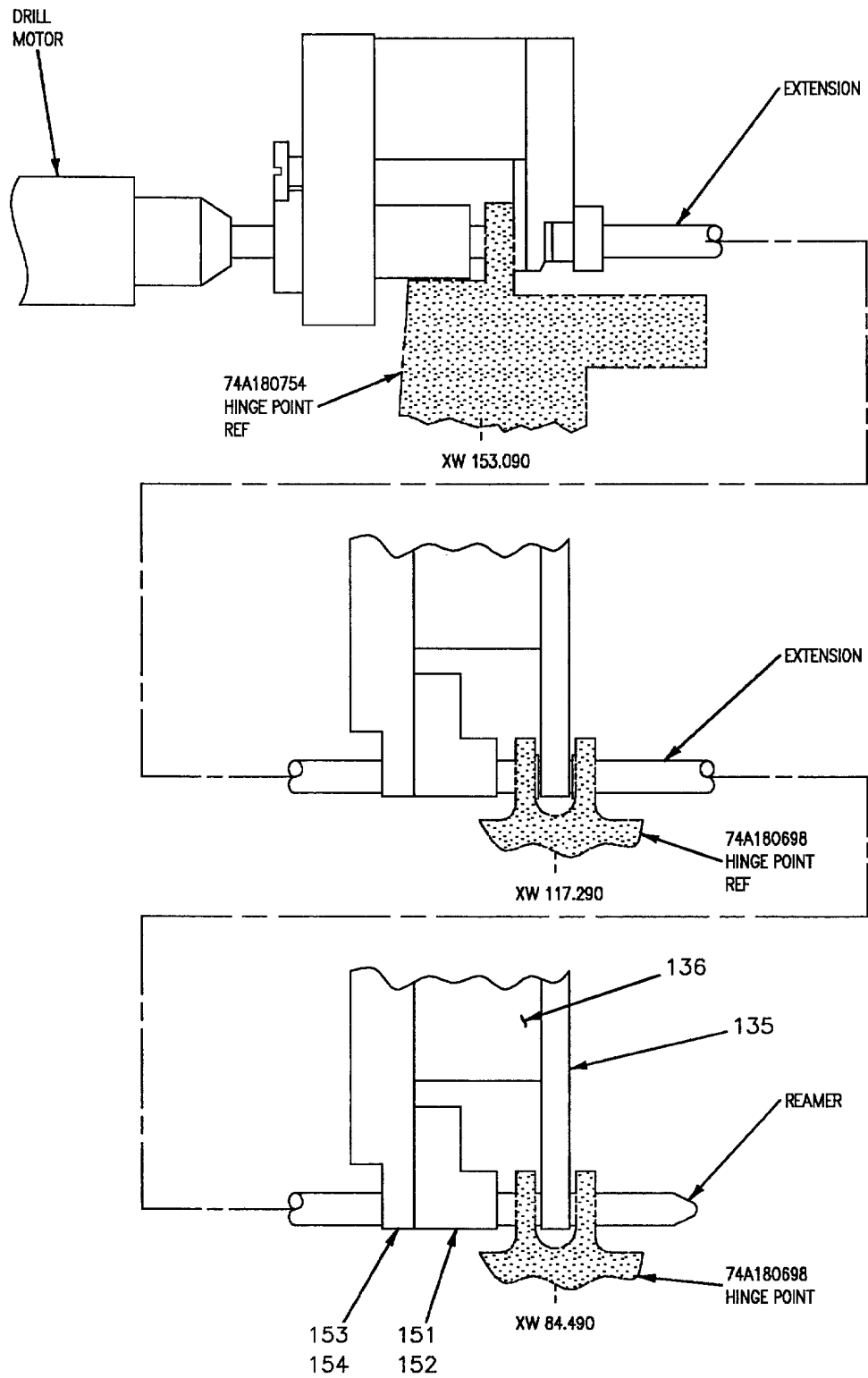


Figure 9. Bushing Replacement At XW84.490 Hinge Point (Sheet 2)



B

Figure 9. Bushing Replacement At XW84.490 Hinge Point (Sheet 3)



C

Figure 9. Bushing Replacement At XW84.490 Hinge Point (Sheet 4)

Detail No.	Name	Function
Subassembly F	Frame	Main support for all details.
14	Pin	Locates shroud in fixture when bushings are removed and nominal size holes exists in 74A180698 hinge point.
15	Pin	Locates shroud in fixture when bushings are installed in 74A180698 hinge point.
35	Pin	Locates shroud in fixture when bushings are removed and first over-size holes exists in 74A180698 hinge point.
36	Pin	Locates shroud in fixture when bushings are removed and second oversize holes exists in 74A180698 hinge point.
135	Locator	Locates details for locating and drilling hinge point holes in shroud.
136	Locator	Locates details for locating and drilling hinge point holes in shroud.
137, 138	Locator	Locates reamer and pin (detail 15) when bushings are installed in 74A180698 hinge point.
139, 140	Locator	Locates reamer and pin (detail 14) for nominal size holes in 74A180698 hinge point.
148	L-Pin	Locates and attaches various details to locator (detail 136).
150	Hand Knob	Secures details to locator (detail 136).
151, 153	Locator	Locates reamer and pin (detail 35) for first oversize holes in 74A180698 hinge point.
152, 154	Locator	Locates reamer and pin (detail 36) for second oversize holes in 74A180698 hinge point.

Figure 9. Bushing Replacement At XW84.490 Hinge Point (Sheet 5)

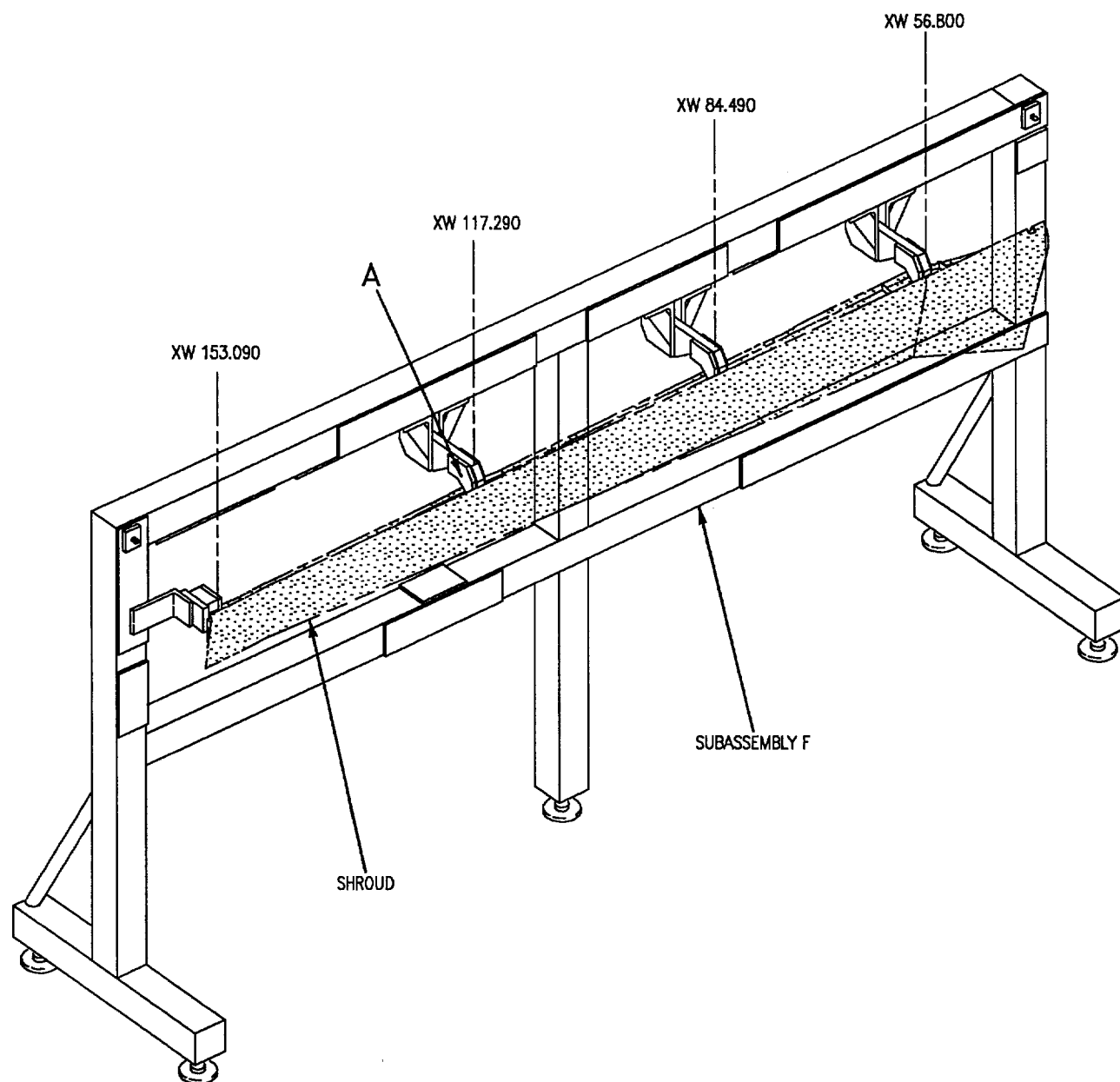


Figure 10. Bushing Replacement At XW117.290 Hinge Point (Sheet 1)

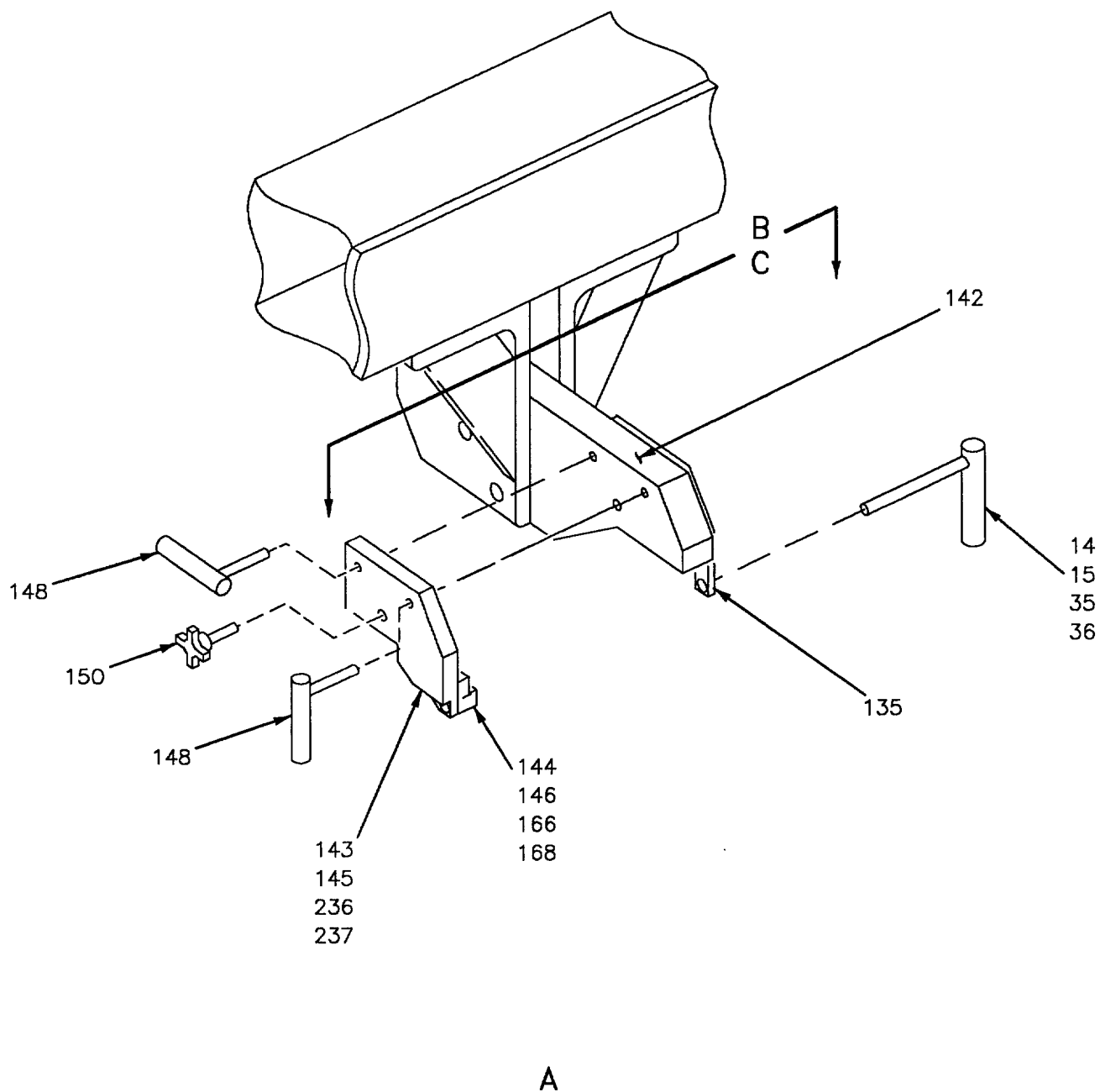


Figure 10. Bushing Replacement At XW117.290 Hinge Point (Sheet 2)

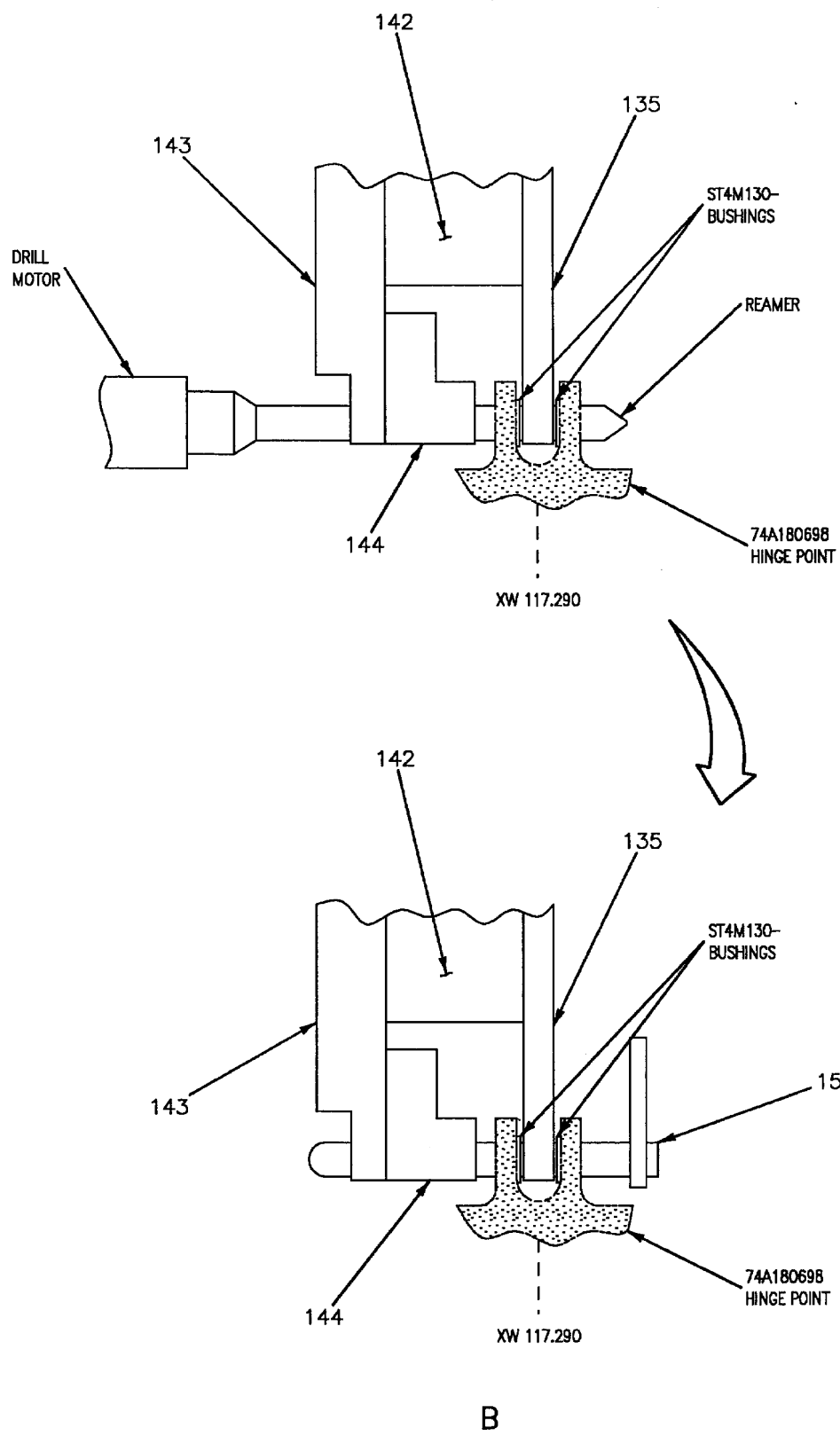
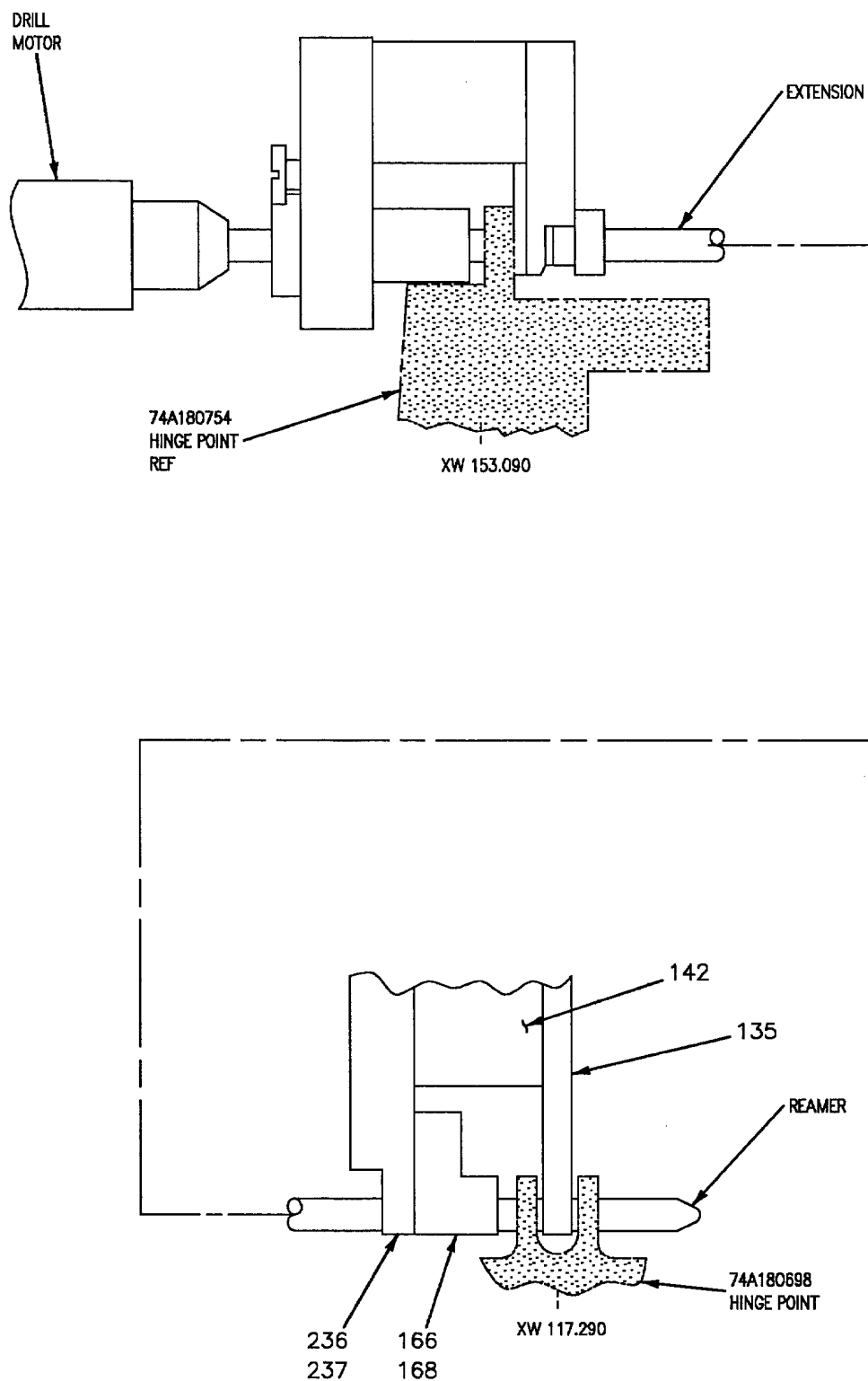


Figure 10. Bushing Replacement At XW117.290 Hinge Point (Sheet 3)



C

Figure 10. Bushing Replacement At XW117.290 Hinge Point (Sheet 4)

Detail No.	Name	Function
Subassembly F	Frame	Main support for all details.
14	Pin	Locates shroud in fixture when bushings are removed and nominal size holes exists in 74A180698 hinge point.
15	Pin	Locates shroud in fixture when bushings are installed in 74A180698 hinge point.
35	Pin	Locates shroud in fixture when bushings are removed and first over-size holes exists in 74A180698 hinge point.
36	Pin	Locates shroud in fixture when bushings are removed and second oversize holes exists in 74A180698 hinge point.
135	Locator	Locates details for locating and drilling hinge point holes in shroud.
142	Locator	Locates details for locating and drilling hinge point holes in shroud.
143, 144	Locator	Locates reamer and pin (detail 15) when bushings are installed in 74A180698 hinge point.
145, 146	Locator	Locates reamer and pin (detail 14) for nominal size hole in 74A180698 hinge point.
148	L-Pin	Locates and attaches various details to locator (detail 142).
150	Hand Knob	Secures details to locator (detail 142).
166, 236	Locator	Locates reamer and pin (detail 35) for first oversize holes in 74A180698 hinge point.
168, 237	Locator	Locates reamer and pin (detail 36) for second oversize holes in 74A180698 hinge point.

Figure 10. Bushing Replacement At XW117.290 Hinge Point (Sheet 5)

